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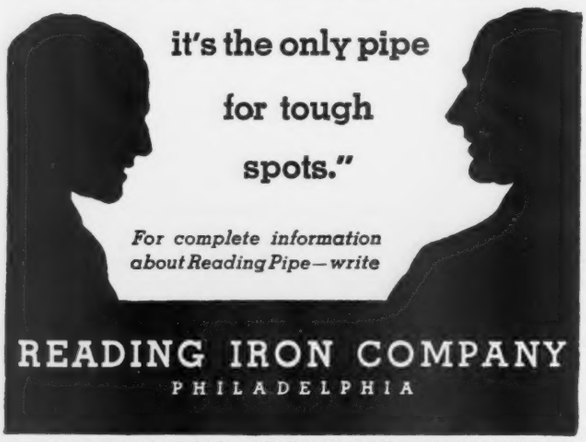

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THE AMERICAN ENGINEER

Published monthly in the interest of the
American People and the Engineering Profession by the
National Society of Professional Engineers

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National Press Building, Washington, D. C.
Publishing and Distributing Offices
SCOTT PRINTING COMPANY, One Sherman Avenue, Jersey City, N. J.
Telephone: Webster 4-3420-1-2

VOLUME 6 JUNE, 1936 No. 6

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The American Engineer assumes no responsibility for statements or opinions expressed by contributors whose names identify the source of the same.

Subscription Rates
$1.00 a year, in advance, to members of the National Society of Professional Engineers and its affiliated Societies.
$2.00 a year, in advance to non-members. Single copies, $0.25.
Entered as second-class matter January 29, 1935, at the post office at Jersey City, New Jersey, under the act of March 3, 1879.
For advertising rates, write G. C. Carothers, 441 Lexington Ave., New York City.

THE NATIONAL SOCIETY of PROFESSIONAL ENGINEERS

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Services of Fred. H. Zurmuhlen Acknowledged

IN accordance with a decision recently reached by the Executive Board of the National Society of Professional Engineers, the business offices of the American Engineer have been transferred from New York to Washington. As the headquarters of the Society are located at the capital and its business affairs conducted from there it was but natural that as soon as arrangements could be effected the business phases of the publication would likewise find permanent quarters in that city.

Willard S. Conlon, Executive Secretary of the Society, will become Business and Advertising Manager and will consolidate the several endeavors incidental to financing and publishing the magazine. In his new responsibility Engineer Conlon will secure the services of such personnel and assistance as circumstances will permit. For the present, at least, there will be no change in the editorial phase of the publication and offices will remain in New York.

The American Engineer and the National Society take this opportunity to acknowledge the work of Mr. Frederick H. Zurmuhlen, of New York, who, as Business Manager, rendered signal and unselfish service in connection with the publication since its appearance as a national magazine in January, 1935. Despite the demands of business and his many affiliations, including the chairmanship of the Membership Committee of the New York State Society of Professional Engineers and the presidency of an unusually active County Chapter of the same Society, he carried the responsibilities of the business part of the publication for nearly a year and a half—a period considerably beyond his expressed intention. His services, as well as those of others identified with or contributing to the American Engineer, have been given without any thought of recompense beyond the satisfaction that accompanies a contribution to a meritorious cause.

It has always been the opinion of those who sponsored the National Society of Professional Engineers that its headquarters should be in the nation's capital and that because of its form of organization as much as possible of its activities should be directed from there. Its sponsors have also envisioned the time when Western, Central, Southern and Eastern membership would reproduce a "United States" of Engineering Societies. The first of these aspirations is already a fact and the constant growth of the Society, now comprehending one fourth the States of the Union, justifies the hope that the second will be realized within the next few years. The movement is taking root throughout the country and with registration will come the professional society in every state. Even other nations are responding to its appeal. Latin America and France are requesting data. In the latter nation Le Societé Des Ingenieurs Professionnels has been recently founded and exchanges with the National Society of Professional Engineers have been frequent. Among the objects of the new Society is "De sauvegarder les interets professionnels et le titre d'Ingenieur," (To protect the professional interests and the title of Engineer). The philosophy of the professional movement is unimpeachable, the need is apparent and the opportunity for service to society and to profession is an invitation for unselfish endeavor.

Correspondents of the American Engineer are requested to direct their inquiries to Willard S. Conlon, Business and Advertising Manager, National Press Building, Washington, D. C., or to the Editor, Grand Central Terminal, New York, N. Y., respectively, as the nature of their correspondence may require. In so doing they should consult the directory on page three for proper addresses.

AN ENGINEERING TREND

Mathematical Developments Require Study

Conclusions Depend More On Premises Than Symbols

Theory and Practice Must Reconcile

By
JOHN E. FIELD
(From Colorado Engineers Bulletin—Author's Approval)

TO STUDY trends rather than to plot curves based on past performance is the method most used today in predicting the future. The trend curve is one in which the judgment and a consideration of collateral influences may affect the projection of curves plotted from historical data.

There are trends which have no recorded history and are based on mental analysis of personal experiences and which are expressed as a belief as to what the future will be.

The trend in engineering methods in the treatment of problems is one which will interest engineers. The World War profoundly affected engineering thought and methods, especially the method of approach to the solution of problems—whether for better or worse remains to be determined—and depends on whether we hold to the things that were good under the old methods or allow them to vanish.

The outstanding characteristics of the American engineer had been his ingenuity, his sound judgment, his boldness, and his lack of reverence for precedent. He did not have the high technical training nor the patience with precedent of the European engineer. Lacking these, he rushed in where others feared to tread, to his own glory and the rapid advancement of his profession.

He used the imported technical methods more as a mechanical instrument to record and verify his conclusions based on personal judgment and experience much as he would use a slide rule or an adding machine, and ruthlessly set aside the technician's conclusion if it conflicted with his judgment.

Today the reverse obtains—judgment and experience are subordinated to a highly complicated mathematical analysis, and while formerly cost was a controlling factor in the determinations, few of the younger generations have a well-balanced conception of the value of a dollar in its relation to the results obtained. In the bright lexicon of youth today there are no such words as "good enough, strong enough, or dense enough," and the work must be as nearly perfect as possible, regardless of cost or its ability to perform the work required of it.

The old engineer built to meet immediate requirements in the full knowledge of his works' limited life and early obsolescence. He built with the realization that they would prove to be inadequate, but he believed with the growth of the country more adequate finances would be available for betterments.

We of today even more than the old engineer are faced with the probability—almost the certainty—that obsolescence will overtake our structures long before they are worn out. This is particularly true of machinery where new inventions and improvements make the scrapping of still good machines advisable.

Roads and bridges built a few years ago are being enlarged, improved, or abandoned today, and yet we build bridges good for a hundred years, at heavy cost, that will probably be scrapped within a decade.

Accuracy is a great virtue, but is easily carried to extremes—unnecessarily voluminous and high brow reports are in the prevailing mode—impressive pieces of personal advertising used to cover up deficiencies in the essentials. Recently the author saw a report which began with the time when the world was without form, illustrated with a score of artistically colored maps showing the land surfaces, through geological ages, followed by glaciers at work, plowing out valleys and later carrying pebbles from distant canyons, filling glacial stream beds, all to show that there was probably water beneath the dry bed of Dry Creek; a report, in short, to confound the ignorant, impress the investor, and awe even the promoter. At best, the writer of this report sought by indirection to find out directions.

With the outbreak of the war in Europe, and the subsequent unemployment of engineers and technicians in the belligerent nations, many came to America and entered our educational and engineering life, bringing with them methods, theories, practices, and habits of their own, many of them inapplicable to American conditions.

In Europe materials are scarce and often imported; labor is cheap, skillful, and abundant; time is long, action unhurried. In America materials are abundant and relatively cheap, labor is both expensive and not skilled. Even among our "skilled" workers there is the lack of skill that only long and arduous apprenticeship gives. We are an impatient people, time is the essence of all our endeavors.

So, beginning in 1914, we had brought to us new and almost revolutionary ideas and methods, with which the investor, the industrialist, and the general public were impressed. The very complexity of this foreign use of the higher mathematics in determining theretofore simple problems awed and intrigued all of us.

Our youth, in true American spirit, sucked in with avidity the theories and mysteries of the new order, and those not so young became more or less slaves to precedent, profound theories, and complicated mathematical solutions, so crowding their brains with these things that there is danger that their native genius, confidence, and initiative is "cabbined, cribbed, con-

(*Continued on page* 24)

FLOOD PROBLEMS

Water and Soil Conservation and Control Call for the Nation's Best Talent

The Problems of Coordination and Planning Should be Entrusted to Competent Engineers

Run-off and Protection Elements of Equal Importance

By
HARRY E. HARRIS

IN LAST month's issue of the American Engineer there appeared an article entitled "The Professional Engineer Can Save The Country," explaining how in addition to sudden and occasional flood devastation, this nation is succumbing to a related but much more serious devastation constantly at work, and which, if not checked within the next twenty years, will result during the century in an impoverished nation and a desolated country with its virility sapped. This approaching death to the land is no conjecture but has already occurred in China, Asia Minor and in sections throughout our own United States.

If this condition, of malignant land disease and successive augmented floods is to be checked, it must be done by the professional engineer, engaged in the civil, structural, agricultural, electrical, mechanical, hydraulic, and other branches.

To be successful, the attack to stop this growing evil that is upon us must not be made the plaything of partisan politics. It must not be the unfortunate victim of privilege and graft. It must not be rent asunder by bureaucratic or departmental ambitions, dissensions and jealousies. To be successful, engineers must be unencumbered in the carrying out of their duty to their country. The professional and economic status of the engineer must be recognized and be placed ahead of political officialism and opportunity. Unquestionable progress is being made along these lines, and it is becoming more widely known and recognized in Washington and in the state capitols that the term "engineer" may mean something more than simply a person who can superintend excavations, build improved roads, dredge channels and erect dams and embankments of concrete.

Senator Albert E. Eccles, Connecticut General Assembly, realizing the responsibility of the engineer in this matter, wrote on March 24th, to the State Society calling upon the registered professional engineers of Connecticut to tackle the flood problem in the same way that the registered medical profession has handled and eradicated epidemic diseases. On the morning of March 28th at the annual meeting of the Connecticut Society of Professional Engineers, his letter was read, discussed and referred to the committee on resolutions. This resolution, printed in last month's article, was unanimously adopted, without criticism in the deliberations preceding its adoption. A special committee was elected to carry out the provision of the resolution.

This committee immediately went into action. The Resolution on Flood Control and Soil Conservation was immediately released to the public and through the press associations was given wide publicity. An initial lot of 500 copies of the resolution were struck off and a form letter drawn up and printed. These were sent to the President and members of his cabinet, governors, senators, congressmen, state legislators, engineering societies, organized agriculture, army engineers, regional planning boards, administrative authorities, hydrologists, leading editors, senatorial committees, state planning boards, etc. Due to the requests received for additional copies a second lot of resolutions had to be run off and sent out.

Governor Wilbur L. Cross, of Connecticut, wrote: "The resolution of the Connecticut Society of Professional Engineers passed at a meeting on March 28, 1936, shows that you have a comprehensive plan which, if carried out, would prevent or greatly mitigate such flood calamities as are occurring somewhere in the United States every year. As Governor of Connecticut my immediate concern is naturally how to control the floods on the Connecticut River. This is a matter which is receiving my most serious attention." * * * "As you point out only an extensive plan will do the business. It is my intention to arrange for a conference between representatives of the New England States very soon."

Undoubtedly the program when started will either operate with present unemployment relief organizations or take over many of their functions as relief workers are assigned throughout this vast project and, properly planned, it will be spread throughout the whole country and may well supersede and take over in a large measure both the W. P. A. and the P. W. A.

Matthew A. Daly, Administrator W. P. A. of Connecticut said, "I will be very glad indeed to bring the conclusions reached by your society to the attention of those who may participate in the discussions having to do with the flood conditions."

The resolutions that were sent to President Roosevelt and Secretary of War Dern were referred to the Chief of Engineers, United States Army. It is the general impression that the primary interest of the army engineers in the matter is in those elements having to do with national defense and navigation rather than in a comprehensive and coordinated plan covering the entire drainage areas extending clear up to the mountain springs and rills at the tributary sources and including such elements as upland swamps, ponds, forestation, scientific tillage to prevent top soil erosion, terraces, road ditches, irrigation, stream pollution, water supplies, and hydraulic power, when the factors that are usually considered to be within their province

are such items as channel dredging, revetments, dikes, levees, dams, etc.

However, two very courteous letters were received signed by Captain Lucius D. Clay for the Chief of Engineers and saying, in part, the first on April 7th: "This matter will receive careful consideration," and the second on April 24th, "This very important question of adequate flood control and conservation of water is now receiving active study and consideration. * * * The importance of the problem involved is * * * well understood. Your courtesy in making the resolution available * * * is acknowledged with appreciation."

Both United States senators from Connecticut are intensely interested in the resolution.

Senator Augustine Lonergan assured National Secretary Willard S. Conlon that "I shall be glad to present the views contained therein to the Commerce Committee of the Senate," and has been specially helpful to the Society's program. Senator Francis Maloney advised him that, "I am very much concerned with the flood control situation. I am working earnestly on these measures."

Very valuable information, advice and cooperation were received by the Committee from such leading hydrologists, Engineer Thorndike Saville, Water Resources Section, National Resources Board, Associate Dean, College of Engineering, New York University; Engineer H. K. Barrows, Consulting Engineer and head of the Hydraulics Engineering Department of the Massachusetts Institution of Technology, Regional Water Consultant of the National Resources Board. This information is now a valuable part of our reference file and has been of great assistance to the committee in supplying information and answering inquiries.

Engr. Morris Llewellyn Cooke, Administrator of Rural Electrification and one of the foremost proponents of having public engineering work performed by professional engineers rather than attempted by professional politicians, has been most helpful in furnishing the committee with information, data, and reports from his own pen and from other sources that have proven a valuable addition to the information and reference file of bibliography, data, reports, etc., relating the different elements of the entire problem and to the various affecting factors of political, departmental, state lines and their interrelation that the committee is compiling.

Cyril Arthur Player, editor of Barron's Financial Weekly, who as a special writer for the Detroit News in June 1933 made a special thorough, though non-engineering, study of our hydrologic natural resources including rivers, water power, navigation, flood control, development and protection of forests and increased facilities has placed carbon copies of his most informative series of articles at the committee's disposal, as well as a list of informative bibliography. He is sincerely and unselfishly interested in furthering flood control and his attitude has been most liberal and helpful.

Walter A. Liddell, Water Resources Technician of the New England Regional Planning Commission, has furnished the committee with a bibliography of federal and state legislation dealing with the organization and administration of drainage areas. This is a most important part of the subject at the present time as the real barriers to a comprehensive and inclusive plan of soil conservation and flood control are not the purely scientific engineering difficulties, huge as they are, but the state and federal political lines, bureaucratic duplications, departmental jealousies, pork barrel politics, militarized subordination and general lack of coordination and comprehensive action. If this information distributed by the committee to senators, congressmen, governors, etc., meets with the attention that it deserves and directs their thoughts along the lines of interstate compacts and United States congressional acts approving such compacts, much will have been accomplished toward a real unified and coordinated engineering plan.

Senator Joseph F. Guffey, from Pennsylvania, Senate Committee on Finance, besides sending his thanks for the resolution says that he "is very much interested in flood control and every phase of water and soil subjects. It is my intention to do everything I can to bring about the passage of the Flood Control Bill which will be beneficial to the various sections of this country." The committee sent for and obtained from him 100 copies of his radio speech of March 30th, 1936, for distribution. Within reasonable limits, additional copies may be procured for the use of committees of other state societies. There are many things in Senator Guffey's speech that we, as professional engineers, can endorse.

Senator Robert F. Wagner, New York, Chairman of the United States Senate Committee on Public Lands and Surveys, who has been giving the entire problem an intensive study of over a year, under date of April 13th wrote to the committee: "Your prompt response to my telegraphed request for assistance is very much appreciated. * * * Because I am convinced that this is a national problem demanding an accepted national policy and a carefully coordinated program of public works, I wish to inform myself of the views of other citizens and groups of citizens that see the problem in this light. * * * The report of the Water Resources Committee of the National Resources Committee is to be in the President's hands by December 1st. That is being made by 'major drainage basins' and in cooperation with all state planning agencies so it should prove of considerable assistance in solving this problem. Again may I thank you for your cooperation."

Senator Wagner's ability, his grasp upon the related details and fundamental necessities and his unquestioned integrity of purpose make him an important factor toward securing good legislation for coordinated soil conservation and water control and the committee's great regret is that it has had comparatively little in its collection of data that would be new or helpful to the Senator.

As Senator Wagner's recognition of the professional engineer's place in the scheme of things is shared by others of his colleagues and may in time extend throughout the legislative body, the situation is very hopeful.

From the United States Senate Committee on Commerce Senator Royal S. Copeland, New York, advises: "Be assured that the views of the Society will be given consideration by this committee"; and many other senators and representatives have sent like assurances to the committee.

Organized agriculture, represented by Louis J. Taber, Master of the National Grange, appreciates our cooperative spirit and our suggestions relative to flood prevention and soil conservation, going on to say: "I fully

agree with you as to the importance of the problem, and also agree that most of our floods can be prevented. It is a sad fact, but dust storms and floods indicate the same basic cause—lack of attention to a sound land policy and conservation program." As there are 8,000 subordinate granges and 800,000 dues-paying members, the grange should be an important factor in ensuring the proper procedure.

Governor Theodore Francis Green of the State of Rhode Island and Providence Plantations, in a letter addressed to the Society, says: "Thank you for your letter with enclosed resolution * * * I am heartily in sympathy with this action of your society and hope it may be productive of results." He has urged the General Assembly to pass a law constituting the Blackstone Valley Authority to cooperate with a similar body of the State of Massachusetts to help in carrying out plans for flood control, pollution of the waters and other less vital but desirable features. This is undoubtedly a step in the right direction, and Governor Green's attitude is progressive and intelligent. Nevertheless the plans, regardless of "Authorities," must first be laid down by those competent to do so and second, two or three "Authorities" merely cooperating is not sufficient; there must be coordinated action under a unified engineering administration to carry out this huge project effectively and economically. This engineering administration to be responsible for the formulation of plans and their ultimate execution must in no way be fettered and bound by politics, state lines, different authorities, government departments, bureaus or divisions if it is to be efficient in its planning and operations.

Editor Julian LaRose Harris, of the Chattanooga Times advocates that the whole jurisdiction over flood control be turned over to army engineers and says: "Efforts to make an omnibus appropriation bill a pork barrel measure have been made every time an appropriation for general purposes has been sought. The safety and health of thousands of people are at stake in the present instance, but that fact will have little effect on an element in Congress which never overlooks an opportunity for its own political advantage. It is that element which will oppose every effort to place the army engineers in complete charge"; while George C. Waldo, editor of the Bridgeport Post says, "an element in Congress, understanding this situation, seeks to take advantage of public sentiment to turn flood relief into a pork barrel raid on the treasury. The work will then be done with utter incompetence, there will be no adequate planning, and most of the money will be squandered or frittered away on aimless political projects. Isn't there enough honesty and patriotism in all of Congress to rise above politics and opportunism and demonstrate that at least one job can be done by our national legislative body without any goal but the accomplishment of a public purpose with minimum expense and maximum efficiency?"

It is most unfortunate but we as taxpayers and engineers must concur that there is much truth in the statements of these editors. Misuse and diversion of the state's and nation's funds are so current that they are unfortunately given but slight passing consideration and are gazed upon in the light of necessary evils. We, as professionals, are zealous and disinterested in wanting to see this immense project handled competently, thoroughly, economically and non-politically. We are interested as engineers as it is purely an engineering matter from the administration to the actual handling of materials, from the planning to the execution, from the uppermost regions where water falls to its final exodus to the sea.

We heartily are in accord with the editors that the job should be kept clean and non-partisan. Should not we, as engineers, make every effort to arouse and bring out to the front, honesty, and patriotism in public works by the combined action and cooperative power of all our professional engineering societies? If we should, now is the time to make the effort, while the importance of this momentous undertaking confronts the country and decisions will probably be made before the year is over.

In regard to the proposal of Editor Harris that the army engineers be given full charge, as a professional engineering society we make no distinction whatsoever between "army engineers" and "civilian" engineers. We stand ready to fully endorse all the statements about the competence and honesty of purpose of the army engineers. However, many of our best engineers and leading hydrologists are not in the War Department, but hold commanding positions in civilian engineering circles and have a much broader field of practice than men confined to specialized duties. We question, therefore, the advisability of limiting consideration to the "army engineers." If it could be shown that they, as compared with all civilian engineers, have a superior and entire requisite knowledge of agricultural science, reforestation and sanitation, which is a most important part of the solution of the flood control problem, and that they have sufficient personnel to carry on a matter of such magnitude as is demanded by the cure of the land diseases throughout the country, and furthermore, if it can be shown that they are in a better strategic position to criticise and fight pork barrel measures, have more power to guide the opinion of the average citizen and induce proper legislation, are more free to use intelligence, are more capable, more honest and less free from arbitrary domination or political retaliation than leading professional engineers outside of the ranks, such a recommendation would be justified. It would be folly without consideration of their limitations to place the entire responsibility upon them. There is no question raised but that the army engineers should play a very important part in this imperative accomplishment, but the matter of giving entire charge to them is another matter and should receive careful and qualified thought.

The present measures before Congress seem to lay great stress on large appropriations for immense storage reservoirs, levees, dikes, channel dredging and increased drainage in the lower valleys to catch the water after the erosion and run off in the upper levels, with little thought to these eminently vaster and more vitally important land regions. This may be because surveys and estimates have been largely made by army engineers interested in navigation matters and skilled in concrete masses and dredging.

The Soil Conservation Service says: "The volume of run off water can be reduced to 25 per cent, the margin, in most cases, between mere high water and destructive floods." This by holding the rain where it falls and retarding it where it enters the ground, making every field a reservoir holding underground water.

In the Tennessee Valley it has been demonstrated that by merely changing farming practices the annual run

(*Continued on page* 24)

APPRECIATION OF THE ENGINEER

The Requirements of Modern Society
Make Indispensable A Better Understanding Upon the Part of the General Public

By
W. F. KAVANAUGH
(From Address to Municipal Engineers Society)

ABOUT one hundred years ago engineering was defined as "the art of directing the great sources of power in nature for the use and convenience of man." From a professional viewpoint there have been better definitions since conceived, but the foregoing is still an excellent statement of the relations of the engineer to his fellow men.

This statement was published just a short time before the invention of the steam locomotive when the horse was the chief source of power for travel. At that time from three to four months were required to make the trip from San Francisco to New York. Now the distance can be covered by rail in a few days or by air in less than twenty-four hours. This is a fair indication of the advance made in transportation in the last hundred years.

Almost concurrent with the improvements in facilities for travel were the development and improvement of water supplies; and the last fifty years have witnessed a marvelous evolution of engineering ideas into practical accomplishments which have changed the course of our civilization and made living conditions easier and much more enjoyable for the bulk of our population.

During the twenty-four hours of every day most of the American people are employing the results of engineering progress without a thought as to the source of the advantages they enjoy over their compatriots of the earlier days of the twentieth century. People demand convenience, luxury and speed and, through scientific endeavor, are afforded these necessities and perquisites.

Within the span of a lifetime we have seen the development of the electric light, automobile, flying machine, skyscraper, electric railway, long-span suspension bridge, vertical lift bridge, super-highway, elimination of several serious diseases by improvement and control of water supply, advances in medical science due to the development of more exact instruments for analysis and surgery, systems of air conditioning which have revolutionized building design, and many other important innovations including a host of household conveniences and other every day necessities.

But what of the engineer who is chiefly responsible for these improvements? How often do we hear of him in connection with his creations?

The captains of industry, promoters and advertising geniuses have exploited the works of the engineer to their own profit and the engineer has plugged along creating and building; and emulating the blushing violet.

Scientifically, engineering has forged rapidly ahead; professionally it has been almost stagnant. The great engineering societies have spent vast amounts of time and effort on research and technical investigation to the great advancement of the profession scientifically and technically, but they seem to have lost sight of the fact that the engineer, being human, must eat and be clothed and housed. It was considered unethical for him to attempt to advance his social and economic status by concerted effort, even though such action was carried on with the utmost dignity.

However, within the last decade, the time arrived when it became apparent that if the engineer was to preserve his status as a professional man he would have to come out of his shell and fight for his place in the sun, otherwise be relegated to a position subordinate to the other professions. Fortunately there are some in the ranks who have the courage of their convictions and the ability to organize.

Through the efforts of these men, the public is gradually being educated to the fact that the engineer is an absolute necessity rather than an item of overhead of questionable value.

The depression has brought home the fact that if more attention had been paid to the engineer's cry for an orderly plan for development of our natural resources, much money, that has been wasted on hastily planned and badly organized work relief projects, could have been used to great advantage on lasting improvements. Governmental units are realizing that political expediency is a bad substitute for sagacious planning.

The great floods occurring within the past year with their disastrous effects on transportation, water, lighting and heating systems; and consequent necessity for speedy repair awakened the public to the need of trained men to take charge of such work.

The great world fairs and industrial expositions of the past several years have featured engineering works that caused thinking people to appreciate the genius behind them.

The editorial writers of several great metropolitan dailies have recently taken cognizance of the need for engineering guidance in affairs, which is something rather unheard of in the past.

Demand is being made by public minded organizations that engineers be picked to serve on committees named to plan great public works.

The stage is set for a great improvement in the professional status of the engineer. It is up to him to take advantage of this condition.

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THE PROFESSIONAL DESIGNATION

The Third of a Series of Articles
From the Pen of the President of N. S. P. E.
"What is Wrong with the Engineering Profession"

By
D. B. STEINMAN

UNTIL quite recently, the engineering profession completely neglected the protection of its professional designation against misuse and misappropriation.

The other legally established professions have long ago come to realize that it is even more important to protect their designations than their professional practice. Any unqualified man advertising himself as a "Lawyer," a "Physician," a "Dentist," or an "Architect," will be promptly arrested and subjected to the penalties of the law. These respective professions will see to it, and the agencies of the law will back them.

Some years ago, Engineering News-Record collected and published serially examples of hybrid hyphenated misappropriations of the term "Engineer." There were domestic engineers, insurance engineers, furniture engineers, amusement engineers, fence engineers, social engineers, plumbing engineers, matrimonial engineers, and exterminating engineers. Some 272 such appellations were held up to our professional amusement or indignation, but nothing was done about it.

No other legally established profession tolerates the unauthorized appropriation of its professional designation.

So long as any non-engineer may with impunity call himself an "Engineer," prefixing any random adjective (such as sales, radio, trucking, real estate, contracting, decorating, etc.), the ignorant and the antagonistic will retain an excuse to charge that engineering is not a profession but merely a heterogeneous nondescript agglomeration of unrelated trades and specialties.

The public judges a profession by the examples it sees. When the public sees the word "Engineer" on the shop window of a plumber, an electrician, a radio dealer, or a garage mechanic, a wrong picture of the engineering profession is implanted.

Recently, in a small town, a man was standing on a street corner handing out his business circulars in which he advertised himself as a "Service Engineer"; and these were the professional (?) services he listed: lawnmowing, porch screens removed, magazine subscriptions, and domestic help furnished! (Upon complaint, this abuse of our designation was stopped.)

A prominent firm of interior decorators in New York was found advertising as "Furnishing and Decorating Engineers." When challenged by the writer, they explained that they had originally styled themselves "Furnishing and Decorating Architects," but the architectural profession had objected! They therefore substituted the word "Engineers," because they "did not suppose the engineering profession would mind." (We did mind, and the abuse was stopped.)

Through misuse and misappropriation, the term "Engineer" has been so weakened that many do not distinguish between a mechanic and an engineer. Many self-styled "Automotive Engineers" are little more than garage mechanics, and but few who adopt the designation "Heating Engineer" know anything of engineering. Few so-called "Radio Engineers," "Refrigerating Engineers," "Ventilating Engineers," "Welding Engineers," etc., are really engineers. So long as these technicians, salesmen and mechanics can freely adopt the engineering designation, the general public has no way of making the distinction.

The profession has suffered in prestige and public confidence from the multiplicity of cults, fads and quacks operating under the engineering title. Self-styled "Efficiency Engineers," "Investment Engineers," "Human Engineers," "Management Engineers," "Personnel Engineers," and the like have pressed their services upon a non-discriminating public; and, when the accomplishments of these pseudo-engineers have failed to measure up to their self-salesmanship, lasting prejudices against "Engineers" in general have been created.

Many adopt the designation "Engineer" because the term has acquired the vague popular connotation of "expert" or "specialist." These offenders, as a rule, have no conception of what engineering really is.

A lady who specialized in advising housewives how to arrange their kitchens was featured in her printed announcements as a "Domestic Planning Engineer." Another non-engineer, who specialized in adjusting marital relations, was listed in the telephone directory as a "Consulting Engineer." (These cases were corrected.) We may regard such trespass as an implied compliment to our professional designation, but we would rather be relieved of the trespass. Our wagon may look attractive to these hosts of uninvited "hitch-hikers," but they seriously retard any real progress toward our goal.

The small contractor who wishes to imply to the prospective home builder that professional services may be dispensed with, styles himself "Engineer and Contractor." An equipment dealer, who wishes to create the impression that his salesmen are engineers competent to give professional advice, supplies his men with business cards bearing the designation "Sales Engineer." A company manufacturing radio sets, wishing to flatter its dealers and service men, featured them in display advertising as "our Radio Service Engineers." (This was corrected.) A corporation employing young laboratory assistants dignifies them with the title "Research Engineers" to keep them happy with a high-sounding title in lieu of more adequate compensation.

Such instances of misuse of the term "Engineer" are deceptions of the public at the expense of the engineering profession.

The engineering graduate has devoted years of intensive preliminary and professional study to win a coveted engineering degree. But the untrained non-engineer has no scruples in appropriating such designations. We find electricians and bell-hangers styling themselves "Electrical Engineer," plumbers adopting the title "Sanitary Engineer," and uneducated country surveyors boldly printing "Civil Engineer" after their names. These men simply confer engineering degrees upon themselves without taking the trouble of going to school.

A few years ago there was an unauthorized private school in New York operating as a "College of Elevator Engineering." At the end of a month of study, diplomas were conferred with a choice of degrees: For fifty dollars, the degree was B.E.E. ("Bachelor of Elevator Engineering"); for sixty dollars, the Master's degree was conferred (M.E.E.); and for seventy-five dollars, the degree of Doctor of Elevator Engineering was bestowed! (Upon complaint from the State Society of Professional Engineers, the school was raided and closed and the proprietors were convicted of violating the education law.)

The engineer knows that he must work many years to prove his ability and attain professional recognition before he can presume to style himself "Consulting Engineer." But the unscrupulous non-engineer does not suffer from such inhibitions and does not hesitate to adopt the high-sounding designation. The New York Telephone Directory listed scores of self-styled "Consulting Engineers" who were not engineers, until the State Society of Professional Engineers took steps to eliminate these unlawful listings.

For years our profession was talking about this problem—the misuse, abuse, and misappropriation of the designation "Engineer"—but *nothing was done about it*. Finally, in 1930, the New York State Society of Professional Engineers initiated a vigorous campaign of correction, and this campaign is now being carried forward on a national scale by the National Society of Professional Engineers.

At first, public officials were slow to cooperate. They told us that we could not "copyright the dictionary." We pointed to the precedents of the other legally established professions which had successfully copyrighted "large chunks of the dictionary." The Penal Law regulating the practice of the legal profession provides that it shall be unlawful for any unlicensed person "to assume, use, or advertise the title of lawyer, or attorney and counselor at law, or attorney-at-law, or counselor-at-law, or attorney, or counselor, or attorney and counselor, or equivalent terms in any language." (Recently, in New York, the legal profession had an insurance man arrested because he encouraged his customers to call him "counselor.") The pharmacy statute copyrights a string of words, including "drugs," "medicines," "drug store," and "pharmacy," or "similar terms or combinations of terms," "in any manner by circular, poster, sign or otherwise."

One of the principal arguments for licensing legislation has been that it would enable us to stop the ignorant and unqualified from hanging out their shingles as "Engineers." If this objective is not secured and enforced, then our legislative effort has, in large measure, been in vain.

Without restriction of the designation "Engineer," proper enforcement of the licensing statutes is impeded or nullified. Since we cannot go into a man's private office and pry into his confidential relations with his clients, it is, as a rule, effectively difficult to prove that a man is practicing engineering. But it is easy to prove that he is using the professional designation: telephone directories, door signs, letter-heads, advertisements and business cards, supply at once the information and the evidence. Moreover, no statutory definition of the practice of professional engineering is or can be perfect. A client may want engineering service or advice not clearly covered by the statutory definition; if he is misled to bring his problem to some unqualified, self-styled "Consulting Engineer" or "Mechanical Engineer," the purpose of the licensing statute is frustrated. The most practical method of "giving teeth" to registration laws is through restriction of the professional designation. Otherwise, effective detection and prosecution of violations becomes practically impossible.

All members of the engineering profession are "Engineers." They have studied "Engineering," and they practice "Engineering." They are known to the public and to the profession as "Engineers." This professional designation is their bond of solidarity. Adjectives may mark differentiation into specialties or fields of practice, but the word "Engineer" unites all into a single profession. As the only designation that all members of the profession have in common, it should be protected from misappropriation and abuse.

Clauses protecting the designation "Engineer" have now been written into most of the state registration laws and have been made enforceable. In New York State it is now unlawful for any unlicensed person "to use the title engineer or any other title, sign, card or device in such manner as to tend to convey the impression that such person is a professional engineer." The Tennessee law is even stronger. It definitely forbids unregistered persons to "use the appellation Architect or Engineer, or any appellation which is a compounding, modifying or qualifying by an adjective of the words architect or engineer or both." The constitutionality of this provision has been upheld by the highest court in the state. The Supreme Court of Tennessee handed down a decision to that effect, and ordered "The Standard Engineering Company" to abandon its trade name because its principals were not registered engineers.

In 1932, the Court of Special Sessions in New York, by unanimous vote of the three judges, sentenced a man to sixty days in the workhouse (with sentence suspended) for using the designation "Civil Engineer" on his letterhead when he had no license to practice professional engineering. It was the first conviction under the Engineers' Licensing Law of the state. The District Attorney had been unable to establish that the man's practice constituted "professional engineering" as defined by the statute, but the use of the designation "Civil Engineer" was held by the court as conclusively showing that the man was "holding himself out" as a professional engineer. And this court decision was made before the statute was amended to include an explicit injunction against unlicensed use of the designation "Engineer."

Moreover, for two years prior to this court decision, the New York State Society of Professional Engineers

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UNITED ENGINEERING INFLUENCE

The Demands of Industrial Development

Afford the Profession an Opportunity That Should be Recognized and Accepted

A Commentary on the National Movement

By
FREDERICK T. HICKS

THE movement of engineers uniting to serve civilization more efficiently comes at an appropriate time. The country has passed the pioneering stage when the principal aim was to throw the territories wide open and make available their valuable resources for exploitation. The free and easy methods of the vote-gathering politician have carried the nation through this stage of rapid development when the number of engineers and the supply of engineering talent would not have been sufficient to provide complete engineering control.

In our industrial history we have now reached a stage which demands more efficient methods of conservation and development and fortunately we now have a more abundant supply of engineering talent available. Since the administration of our first president, a great engineer, surveyor and industrialist, engineers have individually demonstrated the value of their services, as the greatest creators of industrial wealth.

Great as the service of the individual engineer has been, the service rendered by the united engineers will be greater. Their organization will be able to provide the men who are especially qualified and will also have sufficient influence and power to support such men and their policies in applying the best methods of efficiency and science to promote the public welfare.

This is the day of organization when we have combines, mergers, political machines, gangsters and other systems developed by various selfish groups for controlling everything from public opinion to natural resources. In many instances even the civil service systems of states and municipalities seem to have been corrupted and controlled by such groups. Also we have in our country today many associations, unions and organizations which seek through legislation and in devious ways to make their field more exclusive and who by their action tend to encroach upon the fields of others who are not as well organized. Recent writers in the American Engineer have designated several such instances. Against these organized systems, logic and altruistic motives cannot prevail if uncoordinated. The present trend for engineering organization, however, may soon provide synchronized forces which will rescue the country from unqualified domination in matters pertaining to conservation, industrial development and public works, and at the same time promote the welfare of the technical group on which our future national progress depends.

Recently we sent a successful engineering executive to the White House, but when the professional politicians and champions of inefficiency saw this executive take the wheel of the ship of state, they were horrified and shocked by the thought that efficiency was at last finding its way into government. That questions of government policy might be settled on their merits rather than from political considerations, was to them a very repugnant suggestion and the crew mutinied. By this the futility of one engineer acting alone was demonstrated. In the future with a sufficient number of engineers working together in public affairs, the results may be very different.

Also for many years other groups have succeeded in controlling and dominating the policies of our government in many cases through merely controlling the sources of propaganda and publicity, and this quite often through presenting only half of the truth or juggling statistics to deliberately confuse the public.

The engineer, however, does not take readily to the methods of the propagandist. He is naturally a searcher after the truth and a master of statistics. To him two plus two must always make four and he is never interested in wasting his time and that of others in trying to make them believe otherwise. Too often his accomplishments have gone unrecognized and unnoticed because he worked along silently year after year for the pure love of science and engineering achievement and disdained to take advantage of publicity.

In the present movement there are encouraging signs that the importance of controlling publicity and appealing to public opinion has at last been fully recognized by the engineers. Since the press agent has been able to accomplish so much for other groups less worthy, it is very encouraging to consider what he will now be able to do with such good material, as the engineering group representing that talent in our country which is best qualified to serve, and which should logically supervise and control the industrial development and public works.

During the adverse conditions of the past several years, technical men would have been affected less had scientific and engineering talent been employed in developing new uses for our surplus production, thus simultaneously solving the unemployment and the surplus problems. Apparently such a constructive policy could have been effectively advocated and supported if the engineers at that time had been sufficiently organized for action.

Also a certain amount of unjust criticism of engineering achievement has been endured during the depression years, which could have been readily turned by briefly directing attention to a few simple facts relative thereto.

Perhaps it would have served to have pointed out

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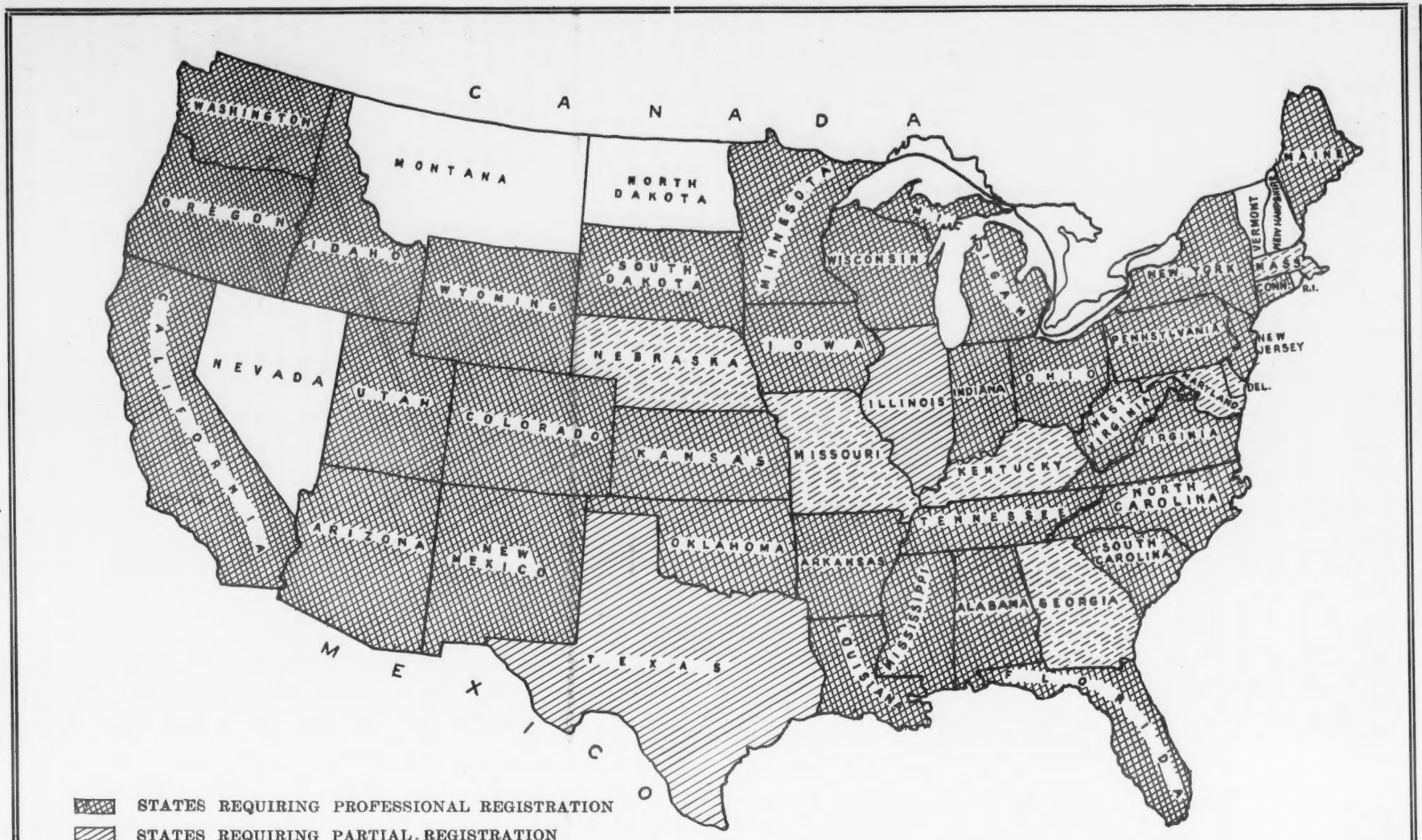

STATUS OF REGISTRATION IN THE UNITED STATES
AS OF JUNE, 1936

ITEMS OF GENERAL INTEREST

REPORTS, NEWS, COMMENTS

STATE ACTIVITIES

Correspondents and readers are invited to submit for publication items of interest to the professional engineer of the country. Such material should be forwarded as quickly as possible in order to keep news up to date.

ENGINEERS BEWARE!

A CLASSIC RETORT

By

One Who Speaks With Authority and Proves His Case and Qualifications?

Washington, D. C.
June 12, 1936

D. B. Steinman
Nat. Society of Prof. Engrs.
117 Liberty St., New York City, N. Y.

Dear Sir:

I have just received a copy of your letter addressed to the Editor of the National Engineer, dated april 29th, 1936.

As an Duly Lisenced Engineer, I having over 30 years, practical Experience, as a Chief & operating Engineer, also as senior Engineer officer, in the U. S. Navy, I Desire to Express, my Contempt of your Ridiculous views, of who should be known as an Engineer.

Your silly Letter is just what we could Expect from an upstart, like you. Where have you received your practical Experience on Engineering I would bet, you got it from a book I have have lots of Experience with *nin com poops,* like you, in my Long carreer, as an Engineer.

I have had such as you, from boston Tech & you were only in my way. What Do you know of the mechanics of an Engine. Could you repair a Corless or skinner Engine, if Broke Down. you are in the sissy white collar class, & if you were in charge of a plant, you would crawl to your assistant operator for advice, when in trouble

on what authority Do you speak? Who are you. we never heard of you you certainly have a nerve, to speak on something, you know nothing about. We are practical Engineers Do not claim any Education, but we Do know all about Engineering.

I Do agree, that Every man who is an Engineer, should be Duly Lisenced, but not before, he has had, not less, than 4 years Experience as an Engineers helper, or fireman. have you had that much Experience? I Doubt it. as I am a member of long standing, in several unions & Engineer associations I will Do all in my power to Ridicule your views, on practical Engineering. It is to be regretted, that such upstarts Like you should have any say, in a real Engineers affairs.

before closing, I will say, that I recently visited the west Coast & your name, is just a big joke to real Engineers out there

take my advice, young man & Learn before you preach to your betters. I have no Doubt your intentions are good, but make sure, you are a competent Engineer, before you suggest any change in name of real honest Engineers.

yours truly
(Signed)

P. S. a copy of this Letter has been sent to various Locals, so they can have a good Laugh *at* you.

N. S. P. E. NEWS BULLETIN
No. 20

By W. S. Conlon

Membership, Virginia

As you will note elsewhere in this issue the twelfth State Society Charter has been issued as of June 1, 1936 to the recently organized Virginia Society of Professional Engineers. The President of our latest unit is Engineer E. M. Hastings, Chief Engineer, R. F. & P. Railroad Co., Broad Street Station, Richmond, Virginia, and the Secretary is Engineer R. Cooper Bailey, Box 112, Richmond, Virginia. The other Charter Members are: Engineers: Stewart W. Anderson, Virginia Military Institute, Lexington, Virginia; William W. Archer, 15 Robin Road, Westhampton Road, Virginia; Hayward W. Evans, Virginia Electric and Power Co., Richmond, Virginia; Claudius Lee, V. P. I., Blacksburg, Virginia; C. G. Massie, 4030 Fort Avenue, Lynchburg, Virginia; James Shannon Miller, Jr., Box 1012, University, Virginia; Gustave A. Peple, Jr., 925-26 American Bank & Trust Co. Bldg., Richmond, Virginia; Frederick E. Ruediger, Vice-President, State Board for Examinations, etc., Engineers, Accomac, Virginia; Francis J. Sette, V. P. I., Blacksburg, Virginia; A. H. Thierman, 1836 W. Grace St., Richmond, Virginia; William D. Tyler, Dante, Russell County, Virginia; Frederick J. Zak, Virginia Electric and Power Co., Richmond, Virginia.

Virginia has a well balanced unit and is preparing a campaign to crystallize sentiment favorable to the proposed legislative amendment to the engineers' registration law.

ENGINEER AND ENGINEMAN

Campaign for Distinction

From various quarters come evidence of the fact that a distinction between the creator and the operator of a machine is gradually permeating the public conscience.

The professional engineer casts no reflection upon his fellow citizen who performs the mechanical work of driving or otherwise operating the mechanism which the engineer's mind has created. There is reason to hope that each may appreciate the functions of the other to such an extent that an acceptance of terms differentiating the two may be found without creating an unfriendly atmosphere.

Following are some items which indicate that the proposal of the National Society is being advocated and practised:

From the press—Bridgeport Telegram.

Engineers and Enginemen

A New York movie critic the other day spoke of "aircraftsmen," when what he meant was airmen. "Aircraftsman" is a cumbersome and unnecessary word, borrowed from the British. It is hard to

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OHIO

Society Issues Bulletin

Engineer Perry T. Ford, President of Ohio Society of Professional Engineers addressing a local society of professional engineers recently said:

The professional engineer of this country needs to develop the professional side of his existence. Due to the lack of proper registration laws in the past, engineers have not had the opportunity to properly develop their professional consciousness. The technical aspect of their existence has been amply cared for as the accomplishments of the engineer would testify, but apparently the ability and desire of the engineering profession to coordinate its interest has been sadly neglected.

I am happy to state, however, that the professional consciousness of our engineers everywhere seems to be roused to the point of real accomplishment in the interest of professional development.

Engineering societies have long been in existence which have to do with the technical advancement of their members, and their contribution to the engineer from a technical view point has been most pronounced.

My emphasis is placed on the social, economic and professional side of the engineer's existence, and I believe the triumvirate—the local, the state and the national societies represent the only safe means for expressing and developing the professional consciousness of the engineer. It is to be hoped, and I strongly urge every member of your local group here assembled, as well as every other member of Ohio Society of Professional Engineers to make it their personal concern to secure at least one new member of O. S. P. E. and N. S. P. E. during this drive for a greater membership. Ample provision has been made for membership in either local, state or national societies. It is hard for me to conceive, in the light of accomplishments thus far attained, how any professional engineer can hesitate in identifying himself with this movement.

The following law was passed by the 91st General Assembly of Ohio in the interest of public welfare:

Be It Enacted by the General Assembly of the State of Ohio:

Section 1. That supplemental section 2782-1 of the General Code be enacted and that section 2783 be amended to read as follows:

Sec. 2782-1. The title of county surveyor shall be changed to that of county engineer. Wherever the words "county surveyor" are found in any section of the General Code, not herein amended or repealed, they shall, after the taking ef-

(*Continued on page* 18)

VIRGINIA

Society Organized

The Virginia Society of Professional Engineers has been organized by leaders of the profession in that state. E. M. Hastings, Chief Engineer of the Richmond, Fredericksburg & Potomac Railroad Company, is President, and R. Cooper Bailey, System Control Engineer of the Virginia Electric & Power Company, is the Secretary. The charter members include the presidents of the Virginia sections of the American Society of Civil Engineers, American Society of Mechanical Engineers, and American Institute of Electrical Engineers. Application by the Virginia Society for a charter has been approved by the National Society of Professional Engineers. This makes the twelfth Member State Society of the National Society of Professional Engineers and brings the individual membership of the National Society up to 5,365. (See Bulletin 20, N.S.P.E., page 15).

The American Engineer extends its congratulations and welcome to the newest Member State Society, a copy of whose constitution and by-laws follow:

Proposed Constitution and By-Laws for The Virginia State Society of Professional Engineers

Index

CONSTITUTION

Preamble.
Article I—Name.
Article II—Headquarters.
Article III—Membership.
Article IV—Chapters
Article V—Conduct of Chapters.
Article VI — Officers, Directors and Executive Board.
Article VII—Committees.
Article VIII—Dues.
Article IX—Good Standing.
Article X—Codes.
Article XI—Elections.
Article XII—Votes.
Article XIII—Amendments

Preamble

Concerned with the public weal and

In order to safeguard life, health, and property, by restricting the practice of engineering to properly qualified persons;

Likewise, to advance the welfare of the engineering profession by the establishment and observance of high ethical standards of conduct, and through sponsorship of the creation and enforcement of adequate license laws and practice acts;

Also, to place the control of engineering projects within the scope of such laws and acts;

Further, to focus public attention upon the professional standing, functions, requirements, and accomplishments of engineers;

Withal, to sponsor and promote honorable procedure tending toward recognition commensurate with the dignity and responsibility of this profession, The Virginia State Society of Professional Engineers, has been organized; and to such ends the Constitution, of which this preamble is a part, is herewith set forth.

Constitution

Article I

Name

Section 1. This Society shall be known as the Virginia State Society of Professional Engineers.

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TEXAS

Completing Organization

The San Antonio Express, in a recent Sunday issue, carries the appended story of the activities of the newly formed Texas Society. The National Society is enthusiastic over the promise held forth by the publicity with which the Texas body is being attended.

TEXAS ENGINEERS FORM A SOCIETY

Will Be Branch of the National Association—Chapter for San Antonio

Following a visit to Texas last February by Dr. D. B. Steinman, member of the American Society of Civil Engineers, internationally known consulting bridge engineer of New York, and president of the National Society of Professional Engineers, a new branch of that society has been organized in this state. This is known as the Texas Society of Professional Engineers and follows the Oklahoma Society of Professional Engineers as the 11th unit of the national organization. Dr. Steinman spoke before the technical clubs in Fort Worth, Dallas, San Antonio and Austin, and his proposals for the new society were enthusiastically received.

Membership in the society is open to professional engineers of all branches of the vocation of engineering. Differing from the so-called technical engineering societies, however, this new society is concerning itself entirely with the advancement of the engineer as an ethical professional man, in public relations and from a business standpoint, rather than technically. It, therefore, fills a much needed want, not heretofore filled, and does not in any way conflict with the aims and activities of specialized technical societies ministering only to different branches of engineering.

Under the proposed constitution of the Texas Society of Professional Engineers the membership is limited to professional engineers. Pending the enactment of an engineers' registration law in Texas, a professional engineer is defined as one who is legally registered in another state, certified by the National Council of State Boards of Engineering Examiners, or certified by the executive board of any Texas chapter as having the qualifications set forth in the uniform registration law proposed for Texas. After the enactment of a registration law in this state the qualifications will be changed to the requirement of legal registration.

In 36 States

As 36 of the states in the United States have already seen fit to pass uniform engineering registration laws, the Texas Society has adopted as its first activity and aim, the passage of such a law for Texas. This has been attempted in the past by several specialized technical societies but has failed because of the lack of unity of action as represented by a universal demand by all different kinds of engineers. The success of the American Medical Association and the American Bar Association has apparently proven beyond a doubt that unity of action is best and that it is not to the advantage of any profession to limit its organization solely to an uncorrelated group of societies representing separate branches of that profession.

When the first goal is reached, the Texas Society of Professional Engineers

(*Continued on page* 20)

ALABAMA

Registration Board Meets

Secretary Conlon of the National Society transmits the appended news item:

Alabama—Registration:

The State Board of Registration for Professional Engineers and Land Surveyors held its organization meeting in Montgomery on May 8. The officers and members of the board are: Col. A. C. Polk, of Birmingham, Chairman; Prof. J. A. C. Callan, Auburn, Vice-Chairman; and R. A. Polglaze, Birmingham, Secretary. The other members of the board are: Prof. John M. Gallalee, University of Alabama, and J. B. Converse, Mobile. The official address of the board is Room 1118, Webb-Crawford Building, Birmingham.

OKLAHOMA

Receives Charter

The Charter of the Oklahoma Society was formally recorded as of May 16th. A report from C. A. Lashbrook advises that the State has been mapped and distinct organization is now in progress with promising results to date.

Engr. Wm. Furber Smith has been selected as National Director for the Oklahoma Society. President M. C. Shibley, Secretary C. A. Lashbrook and the other officers and directors have planned an organization that will one day wield great influence in the State of Oklahoma.

All registered engineers are urged to communicate with them at the addresses given in the front of the American Engineer and to lend themselves to the professional movement.

PENNSYLVANIA

Lehigh Valley Chapter

The American Engineer is indebted to President Wm. S. Lohr, of the Lehigh Valley Chapter, for the following report of its recent meeting:

President Steinman Addresses Pennsylvania Chapter

Dr. David B. Steinman, President of the National Society of Professional Engineers, was the principal speaker at a dinner-meeting of the Lehigh Valley Chapter of the Pennsylvania Society, held at the Hotel Bethlehem, Bethlehem, Pa., Friday, May 22nd. This Chapter, organized last November, has been steadily growing. It covers four counties—Carbon, Lehigh, Monroe and Northhampton, and has already enrolled thirty-five per cent of the eligible engineers in this district. As a result of Dr. Steinman's address, nine new members were added to the membership list.

Dr. Steinman was introduced by Prof. Wm. S. Lohr, of Lafayette College, President of the Chapter, who stated that Dr. Steinman is today "the central tower of strength around which is being erected a strong and effective structure of professional solidarity which I dare predict will, in the not distant future, serve as a radio tower broadcasting to the world the 'voice of the engineer'."

Dr. Steinman, in his usual clear and convincing style, discussed the human relations problems of the profession from the use and misuse of the term "engineer" to the need of a national Department of Public Works, under whose direction all engineering projects, such as dams, canals and similar Federal projects

(*Continued on page* 20)

NEW JERSEY

Passaic County

With photographs and headlines the local press recorded the recent Annual Meeting of the Passaic County, member of the New Jersey Association of Professional Engineers.

COUNTY ENGINEERING SOCIETY'S BANQUET LARGEST IN ITS HISTORY

Fine Tribute Is Paid Engineer Knight of Passaic—Toastmaster Wise Introduces Prominent Speakers

With an attendance of approximately 400, last night's annual banquet of the Passaic County Engineering Society and regional get-together of New Jersey Professional Engineers and Land Surveyors, at the Colonial Inn, Singac, was the largest and most successful social gathering in the society's history.

The event developed into a reception in honor of Gerald W. Knight, of Aycrigg Avenue, this City, who is recovering from an illness of several months. Engineer Knight, who is a member of the Inter-State Sanitation Commission, created to devise plans for abatement of pollution of New York Harbor and adjacent waters, and who has been an active leader in the interests of the engineering fraternity, was lauded by practically every speaker called upon by former Assembly Speaker Russell S. Wise, also of Passaic, who was toastmaster. President Vincent J. Scanlon, president of the Passaic County Society, opened festivities with a cordial welcome to the honored guests, members, their wives and sweethearts.

Among the speakers were Robert W. Allan, Deputy State Administrator of the WPA, who lauded the engineers of Passaic County on their fine record, and paid a fine compliment to Fred W. Childs, of this City, now Chief Engineer of the New Jersey WPA, also President Scanlon, Chief Engineer Myron Hendee and William J. Burke, district supervisor for Passaic County; also State Senator John C. Barbour, Raphael J. Smyth, chairman of the committee on chapter activities of the National Society of Professional Engineers, who paid a glowing tribute to "'Jerry' Knight, who is a most conspicuous member of the New Jersey Society in all its endeavors in behalf of the membership"; Assemblyman Harry J. Donahue, George F. Randolph, of Red Bank, who is president of the New Jersey Society of Professional Engineers and Land Surveyors; Assemblyman John McNaughton, Freeholder-Director Harry Behrman, County Engineer George Hewitt and others.

Congressman George N. Seger, detained at the testimonial dinner in honor of Judge Alexander M. MacLeod, at which he was one of the principal speakers, arrived after speech making had concluded. He was given a fine welcome on all sides and showered with thanks for his recent vigorous pushing of the Passaic Valley Flood Control bill and other measures favored by the society.

President Scanlon, final speaker of the evening, said in part:

"Perhaps when we have opposed actions that we felt to be unsound and unfair, and we have at all times vigorously done so, our actions may have seemed selfish.

(*Continued on page* 21)

DISTRICT OF COLUMBIA

Society Meeting, May 18th

The courtesy of the Program and Publicity Committee, through the medium of Secretary Miles E. Myers, is acknowledged in forwarding the following:

The District of Columbia Society of Professional Engineers held its May meeting at the Raleigh Hotel, Tuesday Evening, May 12th.

The speaker of the evening, William C. Myers, Assistant Principal of McKinly Technical High School, gave a very interesting talk on the preparation being provided for the engineering profession by the secondary schools. He also very ably answered the questions of members concerning the secondary educational situation.

A lively discussion was precipitated when Engineer Barnett, chairman of the legislative committee, reported the probability of the Registration Bill dying in committee at the current session of Congress. National Secretary Conlon urged that a united, militant effort be made by the Society to secure passage of the bill at the next Congress. Action along this line was decided upon.

The National Secretary also announced plans for the National Convention to be held in Washington in October. A committee of members was appointed to further these plans.

Consideration of a social meeting for members and their friends was deferred until the next meeting. Engineer Jobes, chairman of the Civic Betterment Committee was instructed to prepare an outline of a study of engineering projects which are needed in the city. The results of such a study will be presented to the proper officials.

Engineer Christiansen of Mississippi and Engineer Field, a founder of the Colorado Society, were guests of the society.

About seventy-five (75) Engineers were present.

NEW YORK

Annual Meeting of the State Society

The Annual Meeting on May 23rd, 1936, at the Hotel Commodore, New York, was a notable success from every angle of consideration. Over 600 members and guests viewed the exhibits and attended the meetings and luncheon. Among the guests were: Hon. Victor F. Ridder, W. P. A. Administrator for New York; Hamilton L. Shields, W.P.A. Deputy Liaison officer; J. W. F. Bennett, W.P.A. Engineering Advisor; Capt. Arthur G. Trudeau and Capt. Roy W. Grower, W.P.A. Departmental Administrative heads; H. H. Bennett, Chief of the Soil Conservation Service, Department of Agriculture; Clifford M. Pinckney, Chief Engineer of the Borough of Manhattan; Dr. D. B. Steinman, President of the National Society of Professional Engineers.

New York State Board of Examiners

Engr. Norman Rothwell Gibson, of Buffalo, has been appointed as a member of the Board to fill the vacancy created by the recent death of Engr. A. H. Hooker.

Applications for engineering licenses received after November 1, 1936, will be considered under the new rules which become effective on January 1, 1937, and

(*Continued on page* 21)

CONNECTICUT

Bridgeport Engineering Centennial

From the prolific and capable pen of President Harry Harris of the Connecticut Society, comes the following interesting news:

"We are planning under the auspices of the Bridgeport Centennial Engineering Committee, sponsored by the Connecticut Society of Professional Engineers, the American Society of Mechanical Engineers, and the Engineers Club of Bridgeport, to hold a Connecticut State Engineering Congress on July 25 with prominent speakers such as, Governor Cross, Secretary Wallace, Senator Guffey, Major General Markham, on matters of such vital interest as Flood Damage, Soil Conservation, Flood Protection, and American Designed Dirigibles. It is proposed to invite the cooperation and participation of all engineering groups, architects, educational, professional associations, chambers of commerce, civic associations, State engineering commissions and let the engineers have an outstanding part in the Bridgeport Centennial Celebration."

A recent informative letter follows:

Connecticut Engineering Congress,
Bridgeport Centennial Celebration, July 25th, 1936. Sponsored by the Connecticut Society of Professional Engineers, The American Society of Mechanical Engineers, The Engineers Club.
Tel. 3-7506

Joint Committee Hdqtrs.
229 Thorne Street.,
Bridgeport, Connecticut
June 12, 1936

Mr. W. B. Aurandt, Chairman
Bridgeport Centennial Committee
Stratfield Hotel
Bridgeport, Connecticut
Dear Mr. Aurandt:

The above three Engineering Societies, through their local groups, have united to hold a CONNECTICUT ENGINEERING CONGRESS in Bridgeport on July 25th, and plans are being rapidly completed. Engineers and interested citizens from all over the state and the various educational, civic, professional, technical, agricultural and trade organizations and groups in the state are to cooperate. State and municipal officials are invited to attend. Ladies are cordially invited. Preparations are being made to dine 800 at the Stratfield Hotel and to seat 2,000 in the High School auditorium.

Vital topics—Flood Control, Soil Conservation and Aircraft development will be chosen for the addresses to be given by nationally known authorities such as Secretary Wallace, Major General Markham and Governor Cross. The Congress is to be strictly non-political and non-partisan.

It is the Committee's endeavor that the speakers shall be as far as is practicable of different political affiliations, their main qualification being thoroughly competent to speak in an authoritative manner on the topic assigned to them.

I trust the above gives you the information that you requested over the telephone, if not, please advise and I will endeavor to supply what you need.

I enclose a brief HISTORY, OBJECTS AND OFFICIAL PERSONNEL

(*Continued on page* 21)

OHIO

(*Continued from page* 15)

fect of this act, be read "county engineer."

Sec. 2783. No person holding the office of clerk of court, sheriff, county treasurer or county recorder, shall be eligible to the office of county engineer. In all counties no person shall be eligible as a candidate for the office of county engineer or be elected or appointed thereto, except a registered professional engineer and registered surveyor licensed to practice in the state of Ohio.

Section 2. That existing section 2783 of the General Code be, and the same is hereby repealed.

NOTE: The General Assembly later exempted present incumbents.

Section 1083-9 of the General Code of the state of Ohio as originally enacted in the Engineers Registration Act, provided that all moneys in the "professional engineers fund" on the 10th of November of any year in excess of $3,000.00 and not otherwise appropriated, should be transferred to the general revenue of the State.

The 91st General Assembly amended this section to read in part as follows:

***** "It is further provided that when said fund shall be in excess of ten thousand dollars on any calendar year the surplus shall be used toward the reduction of the thereafter renewal fees provided herein, until such fund shall fall below said ten thousand dollars, when said fund, as herein established, shall be restored and maintained until said ten thousand dollar fund is once more attained.

NOTE: It is anticipated that annual renewal fees will not be necessary by reason of this amendment, for several years.

Engineer D. B. Steinman, President of National Society of Professional Engineers has said of the Engineer in the February issue of the American Engineer:

The engineer—he is the master of the laws of Nature. On a sound foundation of mathematics, science, and economics he bends the materials and forces of Nature to his plan and rears the structure of civilization.

With vision, resourcefulness, and ingenuity, he labors to increase the comfort, wealth, and safety of his fellow men.

He attacks the problems with the vision of the pioneer, the integrity of the scientist, the accuracy of the mathematician, the practicality of the business man, the resourcefulness of the inventor, and the courage of the conqueror.

He is the planner and builder. He builds his visions into enduring realities.

He is the pathfinder of civilization. He breaks down barriers, bridges chasms, establishes communication, and strengthens the way for commerce and human progress.

He is the protagonist of efficiency. He reduces effort, eliminates waste, and increases production.

He is the creator of a nation's wealth. He drains the swamps, reclaims the deserts, develops resources, and harnesses power. He builds the machinery of industry, the wheels of commerce, and the structure of business.

He is the great coordinator. He plans and directs the construction of projects representing the investment of millions of dollars and involving the labor of thousands of men.

He investigates with open mind and gets the facts before he makes decisions. He plans with thoroughness and builds with fidelity.

To his rich heritage from the labors of past generations of engineers and scientists he adds his contributions. He continues the work of forcing outward the challenging barriers that separate man's efforts from the impossible.

Local Society Membership in O. S. P. E.

*Maumee Valley Society of Professional Engineers, 34; *Toledo Society, 37; *S. O. S. Society, 29; Elyria-Lorain-Norwalk-Sandusky Society, 41; *Cuyahoga County Society, 70; North East Society, 30; *Mahoning Valley Society, 51; *Akron Society, 30; North Central Society, 34; Ohio Northern University District Society, 16; Midwestern Ohio Professional Engineers and Surveyors Association, 33; Marion Society of Profession Engineers, 19; *Central Ohio Society, 44; Zanesville, Regional Society, 18; *Canton Regional Society, 46; *Steubenville Society, 37; Belmont Regional Society, 26; Morgan-Noble-Washington Society, 15; *Hocking Valley Society, 18; Franklin County Society, 195; Springfield Society of Professional Engineers 28; Dayton Society of Professional Engineers 30; *Tri-County Society of Professional Engineers 24; Hamilton County Society of Professional Engineers 16; Southern Ohio Society of Professional Engineers 40; Portsmouth Society of Professional Engineers 12; Ironton Society of Professional Engineers 21; Outside of Ohio 10.

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*Have applied for affiliation under new constitution 1,004.

An invitation has been extended to O. S. P. E. by the corresponding societies of Illinois, Iowa and Wisconsin to join them in reciprocal exchange of all papers and proceedings of annual meetings of each state. This exchange has been the practice of these three state societies for the past seven years, and it is desired to have the Ohio Society join with them in order to reduce the cost of issue to the zero point by reason of greater advertising and distribution.

This would mean that all members of O.S.P.E. would receive, quarterly, the papers and proceedings of each state without additional cost to members.

This matter will be presented to the Executive Committee of O. S. P. E. for early consideration. Sentiment seems to favor the arrangement.

County Engineer Nominations

It is interesting to note that 89 out of 146 candidates for the office of County Engineer are members of the Ohio Society. This is encouraging and worth remembering.

Nominees for Office of County Engineer November Election—1936

Adams—*Rufus Cox, (D); C. W. Riffle, (R).

Allen—*W. J. Neidhardt, (D); *John E. Breese, (R).

Ashland—*L. G. Shenberger, (D); W. M. Spreng, (R).

Ashtabula—*E. N. Luce, (R).

Auglaize—*V. P. Killian, (D); E. A. Katterhenry, (R).

Athens—R. H. Beckler, Jr., (D); *J. W. Wilson, (R).

Belmont—*A. C. Murphy, (D); W. L. Herbert, (R).

Brown—John R. Kay, (D).

Butler—*Fred M. Hammerle, (D); W. S. Conklin, (R).

Carroll—*Donald R. Blythe, (R).

Champaign—*Harry P. Walters, (R).

Clark—*Walter A. Burg, (D); *Edwin R. Burke, (R).

Clermont—Val R. Rule, (D); Carl R. Rush, (R).

Clinton—Stanley E. Curtis, (D); Herbert G. Haynes, (R).

Columbiana—*R. S. Wheatley, (D); *Lloyd C. Kirk, (R).

Coshocton—E. P. Alford, (D); *John R. Frew, (R).

Crawford—*Kelsey E. Poister, (D).

Cuyahoga—*J. O. McWilliams, (D); Fred R. Williams, (R).

Darke—*P. V. Coppess, (D).

Defiance—*John E. Leaders, (D).

Delaware—*J. C. Reichelderfer, (D); R. L. Parsons, (R).

Erie—*H. F. Gerold, (D); *W. W. Henkelmen, (R).

Fairfield—*L. E. Wolford, (D); E. R. Johnston, (R).

Fayette—*Clyde E. Haager, (D); George A. Gregg, (R).

Franklin — *Allen C. Slade, (D); *Curtis C. Lattimer, (R).

Fulton—Rollo Hoyt, (R).

Gallia—*E. N. Leonard, (R).

Geauga—*Elmer A. Fiedler, (R)

Greene—Wm. J. Davis, (R).

Guernsey—*Harry A. Green, (D); Peter Sheehan, (R).

Hamilton—W. Allen Stone, (D); E. A. Gast, (R).

Hancock—*Max Stringfellow, (D); E. H. Hoffman, (R).

Hardin—*Russell L. Harvey, (D); T. W. Predmore, (R).

Harrison—Edwin L. Mills, (R).

Henry—*H. W. Delventhal, (D); Harry R. Wagner, (R).

Highland—*L. H. Fenner, (D); Thos. H. Murphy, (R).

Hocking—Ernest L. Shaal, (D).

Holmes—*Karl Snyder, (D).

Huron—*C. R. Bishop, (D); *Charles Ogan, (R).

Jackson—*Ed. F. Monahan, (R).

Jefferson—*Martin Smith, (D); *Ed. M. Martin, (R).

Knox—Edgar L. Mill, (R).

Lake—*J. H. Mainey, (D); *Arthur B. Wilson, (R).

Lawrence—*Grover C. Kinley, (R).

Licking—*Geo. L. Hershberger, (D); *Chas. J. Ward, (R).

Logan—*Harry D. Keller, (R).

Lorain—*H. L. Dunham, (D); *J. W. Warden, (R).

Lucas—*Ben G. Kesting, (D); Raymond H. Rice, (R).

Madison—*Howard G. Brown, (D); *Robert H. Graham, (R).

Mahoning—*R. J. Schomer, (D); *G. M. Montgomery, (R).

Marion—Carl H. Tozzer, (D); *Cecil R. Leavens, (R).

Medina—*W. W. Anderson, (R).

Meigs—Theodore Beegle, (R).

Mercer—F. D. Kuckuck, (D).

Miami—*M. A. Gantz, (D); E. H. Bagford, (R).
Monroe—*Glenn W. Kirkman, (D).
Montgomery—*Victor C. Smith, (D); Wesley O. Pease, (R).
Morgan—*F C. Smith, (R).
Morrow—Kenneth B. Graham, (D).
Muskingum—*Wm. H. Neikirk, (D); *John W. Alter, (R).
Noble—*Grover C. Smith, (D); Homer H. Weedon, (R).
Ottawa—Reigel E. Fetterman, (D); Ervin Beebe, (R).
Paulding—Chas. A. Dunakin, (D); *Henry Green, (R).
Perry—*John W. Taylor, (D); M. A. Wheatcraft, (R).
Pickaway—H. G. Griner, (D).
Pike—Wm. L. Sheridan, (D).
Portage—P. C. Shaffer, (D); *Harold L. Hubbell, (R).
Preble—*Otha Heckathorn, (D); Joseph N. Jones, (R).
Putnam—*L. H. Schmenk, (D).
Richland—*Howard C. Sword, (D); Kenneth P. Shaffer, (R).
Ross—*John Schweitzer, (D); James L. Heath, (R).
Sandusky—*Geo. M. Lieber, (D); Leroy C. Roush, (R).
Scioto—*O. Carson Barklow, (D); *Arthur H. Peake, (R).
Seneca—*Chalmer H. Mohr, (D); *Harold Z. Hakes (R).
Stark—Luther K. Zerbe, (D); *Wade W. Shidler, (R).
Summit—*Arthur F. Ranney, (D); *Hal G. Sours, (R).
Trumbull—*Harry L. Dittmer, (D); *Royal H. Sillitoe, (R).
Tuscarawas—*Geo. E. Arnold, (D); E. R. McCullough, (R).
Union—Walter E. Griffith, (R).
Van Wert—*J. F. Mollenkopf, (D); *Otto Witten, (R).
Vinton—*J. M. Ogan, (R).
Warren—*Sam D. Henkle, (R).
Washington—*T. J. Farrell, (D); *C. W. Stacey, (R).
Wayne—*Paul E. Glasgow, (D); F. D. Kirchbaum (R).
Williams—Emerson D. Wertz, (D); Alfred L. Opdyke, (R).
Wood—*Edw. F. Metzger, (D); *John F. Gallier, (R).
Wyandot—Oro N. Essex, (D).
Shelby—Earl C. Woddell, (D); Eugene H. Blake, (R).

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*—Denotes member O. S. P. E.
(Information compiled by O. S. P. E.)

State University Bulletin

The Engineering-Experiment News of April, issued by Ohio State University, contains some interesting comments on things not to technical. It is recommended for reading despite the implied impression that there are undebatable premises in economics.

VIRGINIA

(*Continued from page* 16)

Article II
Headquarters

Section 1. The principal office shall be located in such city of not less than fifty thousand population of the State of Virginia, as may be selected by a letter ballot, upon recommendation of the Executive Board, and shall be designated as State Headquarters. A two-thirds affirmative vote, with at least twenty per cent of the membership voting, shall be necessary so to select.

Article III
Membership

Section 1. The membership shall consist of professional engineers licensed by the State of Virginia.

Section 2. There shall be but one class of membership.

Section 3. All membership shall be contingent upon, and simultaneous with, election to membership in a chartered district.

Article IV
Chapters

Section 1. The State Society, through its Executive Board, may authorize and charter one chapter in each designated or chosen district.

Section 2. The Executive Board of the State Society shall have authority to make rules and regulations for chartering, combining, and/or dissolving chapters.

Article V
Conduct of Chapters

Section 1. Each chapter chartered by the Society shall adopt such constitution and by-laws for its internal government as it may deem proper; provided, however, nothing therein shall conflict with or contravene the Constitution and By-Laws of the Society.

Section 2. Chapter Constitution, By-Laws, and Codes of Practice, or any amendments thereto, shall not become effective until approved by the State Executive Board of the Society.

Section 3. Chapters shall engage in such activities as are consistent with professional ideals and ethics and are conducive to public welfare. Such activities shall be restricted to the prescribed or designated district for which the chapter is chartered, except as the Executive Board may authorize.

Section 4. Chapters shall collect, from their respective memberships, all dues and assessments payable to the State Society; and, in addition, may fix and collect such chapter dues as they shall determine necessary for their chapter activities and administration, as provided in chapter constitution and/or by-laws.

Section 5. It shall be the duty of each chapter to transmit to State Headquarters or to the Society's duly designated officer the following: All State Society dues, within fifteen days after their receipt; the names and addresses of newly elected, expelled, suspended, or deceased members, at once; and the notices of all meetings and elections.

Section 6. A chapter intending to present a resolution for a vote at any meeting of the State Society, shall mail copies of such resolution to all other chapters and to State Headquarters, with a synopsis of the subject, at least three weeks prior to the meeting.

Section 7. Authority to reprimand members, to suspend from membership temporarily, to expel from membership shall be vested in the several chapters; provided, however, that in expulsion cases action shall be after approval by the Executive Board of the State Society. Chapters may conduct investigations, hearings, and trials, review of which shall be as provided in the By-Laws.

Article VI
Officers, Directors, and Executive Board

Section 1. The officers of the State Society shall consist of a President, a Vice-President, an Executive Secretary, and a Treasurer.

Section 2. There shall be five Directors, representing, as far as practicable, all sections of the State.

Section 3. The Officers and Directors, together with the two immediate Past Presidents shall form the Executive Board of the Society. The President of the State Society shall be Chairman of the Executive Board.

Article VII
Committees

Section 1. There shall be two standing committees; namely, Membership and Meetings.

Section 2. The Executive Board shall determine the number of which each standing committee shall be composed.

Section 3. The chairman and members of standing committees shall be appointed immediately after the annual election of officers of the State Society by the President for a period of one year or until discharged.

Section 4. Special committees shall be appointed by the President as required. He shall determine the size thereof and shall name the chairmen.

Article VIII
Dues

Section 1. Dues shall be as provided in the By-Laws and shall be collected by the district chapters.

Article IX
Good Standing

Section 1. The Executive Board of the State Society shall have the authority to promulgate rules and conditions of good standing. Unless the Executive Board rules otherwise, a member shall not lose good standing, for non-payment of dues, until he is in arrears for more than two years.

Article X
Codes

Section 1. The Code of Ethics adopted by the State Society upon recommendation of the Executive Board, and any amendments thereto, shall be binding on all chapters. Amendments to the Code of Ethics shall follow the same procedure as provided in Article XIII for amendments to this Constitution.

Section 2. The several chapters shall adopt Codes of Practice suitable to the districts for which their charters have been granted.

Article XI
Elections

Section 1. All Officers shall be elected annually and shall hold office for one year or until their successors are chosen. Three Directors shall be elected one year and two the next year, each for a term of two years.

Section 2. All elections shall be by letter ballot. Ballots shall be mailed at least four weeks prior to the date of the meeting at which the installation of officers will take place.

Section 3. A plurality of all votes cast by ballot shall be necessary to elect to any office.

Section 4. Upon the death, resignation, or removal of any Officer or Director, the Executive Board may fill the vacancy until the next annual election.

Article XII
Votes

Section 1. Votes, except those required to be by letter ballot, at all regular and special meetings of the Society, shall be by delegate or member.

Section 2. Each chapter shall be entitled to one vote, plus one additional vote for each five members, in good standing, as reported by the Executive Secretary of the State Society, for the fiscal year preceding that in which the meeting at which the vote is taken, is convened.

Section 3. Chapters may delegate a member of the State Society who is a member of a chapter other than that delegating him, but no delegate shall cast the votes of more than two chapters.

Section 4. Chapters may send as many delegates as they desire but each shall have proper credentials which shall state what proportion of the chapter's vote each is empowered to cast.

Section 5. When a roll call is necessary the secretary of the meeting shall tally the vote and announce "ayes" and "nays" before the chairman declares the success or failure of the question.

Article XIII
Amendments

Section 1. This Constitution may be amended by letter ballot provided, however, that such amendment shall have been presented to the Executive Board in writing and that, a majority of the Executive Board having approved of the amendment, it shall have been submitted to the Society for decision at least two weeks prior to the date set for the closing of ballots. A two-thirds affirmative vote, with not less than twenty per cent of the membership voting, shall be required to amend this Constitution or any part thereof.

Section 2. When a proposed amendment is presented to the Executive Secretary in writing and signed by ten per cent of the membership in good standing, approval of the Executive Board shall be unnecessary before submission to the State Society, in accordance with Section 1 of this Article.

Section 3. Amendments to this Constitution shall become effective immediately upon approval as provided in Section 1 of this Article.

TEXAS

(*Continued from page* 16)

expects to follow the lead of the parent National Society in a campaign of public education leading to a recognition of the engineer on a par with the doctor and the lawyer. There is perhaps no designation of an individual in any profession more misused than that of engineer, and in the public mind it is more likely to suggest the driver of a steam locomotive than a technical professional man. Just as the designation of doctor is applied to a medical professional man and attorney is applied to a lawyer, so should the term engineer be used in its proper meaning when addressing a member of this profession.

Organization of the first unit of the Texas Society has been completed in Austin and is designated as the Travis Chapter. The officers of this chapter are as follows:

President, Everett T. Giles, United States Reclamation Department.

Vice-President, R. H. Knipping, superintendent of the City of Austin Water and Light Plant.

Vice-President, E. G. Franke, resident engineer, Division 14, State Highway Department.

Executive Secretary, R. H. Guinn, State Highway Department.

Financial Secretary and Treasurer, Tate Dalrymple, United States Geological Survey.

Directors, J. P. Exum, State Highway Department; Trigg Twitchell, United States Geological Survey; H. M. Bohm, City of Austin; J. H. Burch, Division 14, State Highway Department.

San Antonio Chapter

The Bexar Chapter of the Texas Society proposed for San Antonio, now has a large enrollment and is planning to hold its organization meeting in the near future. Other chapters are in the process of formation in Dallas, Fort Worth, Brownsville and El Paso.

Pending completion of the state organization, National President Steinman has designated the following temporary state officers:

Temporary Chairman, Max P. Von Homeyer, State Highway Department, Austin.

Temporary Secretary, Professor R. D. Landon, Southern Methodist University, Dallas.

Temporary National Director: J. W. Beretta, National Bank of Commerce Bldg., San Antonio.

President Steinman previously designated Engineer Beretta as the organizing contact man, acting for the National Society, in the formation of its Texas affiliate, and all of the preliminary organization work has been carried on under his direction. It is planned to set up a state headquarters in Austin at an early date, from which the administration of the Texas Society will be carried on. At the present time, close liaison is being carried on with the headquarters of the National Society in Wasington.

PENNSYLVANIA

(*Continued from page* 16)

would come. All engineering functions of national nature are now delegated to the Department of the Interior, he said, which, despite its engineering responsibilities has never had a trained engineer at its head.

Of course, the activities and objectives of the National and State Societies were ably presented. A hearty vote of thanks was accorded the speaker at the conclusion of his address. This address was broadcast over the local station WCBA. The members of the Chapter regretted, however, that it did not go out over a national hook-up. We hope that arrangements may soon be made to have one of Dr. Steinman's addresses go out over such a national hook-up.

Harrisburg Chapter

A report of the April meeting received too late for previous publication has come from the pen of Engineer H. P. Lundy, Chairman of the Publicity Committee:

The Harrisburg Chapter held its April meeting in the dining room of the Hershey Community Building at Hershey, on April 16th. Engr. Robert Hall Craig presided.

As the other chapters in the State had been invited, the meeting was attended by members from the Lehigh Valley, Philadelphia, Wilkes-Barre and Reading Chapters.

The principal speaker was Engr. T. W. Battin, Executive Secretary of the State Society, who spoke on the organization of the State and National Society, the progress in establishing new chapters and the increasing membership of the Society.

Other speakers were Engr. M. H. Blez, of the Philadelphia Chapter; Engr. P. E. Stauffer, of the Wilkes-Barre Chapter; Engr. W. S. Lohr, of the Lehigh Valley Chapter; and Engr. Smith of the Reading Chapter. Each speaker gave an account of what was being done in his Chapter, particularly as to increasing membership. The interchange of ideas on this subject created a spirit of friendly contest among the separate chapters which will undoubtedly result in a substantial increase in membership.

After the meeting an inspection was made of the new air-conditioned, windowless office building of the Hershey Chocolate Corporation, followed by a theatre party to the Hershey Community Theatre.

An Appeal to the Engineering Educators of Pennsylvania

A recent survey shows that of 450 engineering educators in the dozen or more institutions of learning in Pennsylvania in which engineering instruction is given, who from their titles and evident preparation should be eligible for registration as Professional Engineers, only 50, or about one ninth, have so registered.

This communication is addressed to such educators to urge them to register, when eligible, as a matter of professional duty and when so registered, to associate themselves with the Pennsylvania Society of Professional Engineers and thereby, the National Society of Professional Engineers established to do for the Engineering Profession what the Bar and Medical Associations have done for their respective Professions in enhancing prestige, legal protection and professional recognition.

Among the engineering educators already interested in this movement are:

Dean E. Hausmann, Brooklyn Polytech.; Prof. W. J. Krefeld, Columbia; Dean P. H. Daggett, Rutgers; Prof. H. E. Babbitt, Illinois; Prof. C. C. Mota, Puerto Rico; Prof. W. B. Wendt, Louisville; Prof. F. E. Johnson, Iowa; Prof. J. C. Riedel, New York; Prof. C. C. Knipmeyer Rose Polytech.; Prof. E. M. Fernald, Lafayette; Engr. Chester F. Drake, Pittsburgh.

Prof. Ralph H. McKee, Columbia; Prof. L. W. Clark, Rensselaer; Prof. L. S. LeTellier, Charlestown; Prof. D. M. McGain, Mississippi; Prof. J. S. Dodds, Iowa; Dean B. M. Brigman, Louisville; Prof. E. W. Saunders, Virginia; Prof. L. F. Van Hagan, Wisconsin; Prof. C. L. Mann, North Carolina; Prof. Wm. S. Lohr, Lafayette, and others.

The engineering educators of the State, guiding the minds of the younger engineers, should be leaders in this movement and by active participation in the work of our association set an example

to the coming generation and do their share toward the uplift of the profession in its human and professional aspects as well as in its technical advancement in which as a class they are generally interested.

Cordially

T. W. BATTIN
Executive Secretary.

NEW JERSEY

(*Continued from page* 17)

Quite frankly, we admit we were and are opposed to the so-called 'lawyers' bill', to the appointment of non-technical supervisors over great public construction projects and utilities, to the growing tendency to consider engineering work a part of land subordinate to social service work, to engineering salaries that are less than those of labor foremen and to other actions that we consider ill-advised. We resent and will continue to resent these things.

"We have no deep seated quarrel with the bar association, social service groups or other representative civic groups or for that matter public or political groups. We seek only to prevent one profession profiting at the expense of another. We seek the right and the sole right to practice engineering at salaries or fees commensurate with the duties. This is what we seek, this is what we fought for, and this is what we shall continue to fight for."

Telegrams stating that they were unable to attend were read from William J. Burke, supervisor of District No. 1, WPA; United States Senator A. Harry Moore; United States Senator W. Warren Barbour and Mayor John V. Hinchliffe.

South Jersey

ENGINEERS TO HOLD BRIDGETON DINNER

South Jersey Group Meeting Marks Anniversary of City

The first annual dinner of the South Jersey Chapter of the New Jersey State Association of Professional Engineers and Land Surveyors was held at the Pinehurst Club near Bridgeton at 6 P. M., May 21st.

Victor Gelineau, chief engineer of the Board of Commerce and Navigation and Dr. D. B. Steinman, president of the National Society of Professional Engineers, were among the speakers. A representative of the state association was also present. Marshall N. Hammon, Jr., president of the South Jersey Chapter, presided. Edward Maier, Bridgeton city engineer, was in charge of the arrangements for the dinner.

The dinner, which was attended by members from Atlantic, Burlington, Camden, Cumberland, Cape May, Gloucester, Salem and neighboring counties, was held in connection with the celebration of the 250th anniversary of the founding of Bridgeton.

At 3 P.M. the engineers and surveyors attended dedicatory exercises at the opening of the new state highway bridge over the Cohansey River in Bridgeton. Addresses were made by Governor Hoffman, state, county and city officials.

Following the dinner the association held a meeting in the council chamber at the Bridgeton City Hall.

NEW YORK

(*Continued from page* 17)

both graduates and non-graduates will be required to pass a complete two-day written examination, without any partial exemptions. Before being admitted to examination: graduates of an approved school of engineering must show at least four (4) years of satisfactory engineering experience after graduating; non-graduates will be required to have at least twelve (12) (now 8) years of satisfactory engineering experience. The only candidates who may be exempted from written examinations are those of eminent standing in the profession with a record of at least fifteen (15) years of lawful practice of professional engineering after graduation.

Civil Service Preferred Lists

An amendment to Chapter 15 of the Laws of 1909 entitled "An act in relation to the civil service of the State of New York and the civil divisions and cities thereof . . . " became effective on May 11th, 1936, which provides that "An employee reinstated from a preferred list to same or to a similar position, shall receive at least the same salary such employee was receiving at time of separation from the service."

New York University

Professor Thorndike Saville has been appointed as Dean of the College of Engineering of New York University to succeed Dean Bliss who retires in September. There are evidences that under this new leadership the cordial relationship which has existed between New York University and the New York State Society will continue.

Westchester County

An attendance innovation was inaugurated by the Westchester County Chapter at its meeting on June 2nd, 1936, at the Elks Club, White Plains. Invitations were extended to all members to attend one or all of the following functions: The meeting of the Board of Directors which was called to order at 5:30 P.M.; a dinner-meeting which began at 7:00 P.M.; the Chapter meeting which opened at 8:15 P.M.

At the Annual Meeting of the State Society, Francis J. Laverty, Chapter Secretary, was elected to membership of the Executive Board of the State Society.

Engr. Leslie G. Holleran, past president of the Chapter, was recently elected to the presidency of the Metropolitan Section of the American Society of Civil Engineers.

Dutchess County

The Dutchess County Chapter is: actively advocating the adoption of a licensing law for engineers in the District of Columbia; studying a revision of the Building Code for the City of Poughkeepsie.

CONNECTICUT

(*Continued from page* 17)

OF BRIDGEPORT CHAPTER, CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS. This is preceded by a brief statement regarding Bridgeport as the leading City in engineering in the State of Connecticut. Please advise me whether this information is what you want, and if not, what you require to make it satisfactory. I will see that you are shortly supplied with similar material for the AMERICAN SOCIETY OF MECHANICAL ENGINEERS and the ENGINEERS CLUB.

Yours very truly,

HARRY E. HARRIS, *Chairman*
JOINT ENGR. COM.

SOCIETY MEETINGS

The courtesy of President Harris and acting Secretary Gotthardt is acknowledged and their transcripts used verbatim.

Connecticut Society of Professional Engineers Meeting May 14—*May* 15, 1936

The meeting of the Board of Directors, Officers and Committee and Local Chapter Representatives and Alternates called for Thursday night at the President's office, 229 Thorme Street, Bridgeport was called to order at 8 P.M. Members present were Engineers Charles J. McClinch, Albert W. Hagan, William P. Little, Carl Gotthardt, John W. Shallenberger, Arthur A. Mitchell, Z. F. Cappabianca, C. S. Wendell, B. L. Bilderbeck, J. W. Cone, H. E. Elton, J. Gerald Phelan.

Serious and prolonged discussion was given to the matters of the Bills H.R. 10136, H.R. 12030, H.R. 8681 and H.R. 2744 on the design and construction of American Dirigible Airships by American Engineers.

The letter of the Honorable John M. O'Connell, of April 24, 1936 was read, relating to American Airships, to be designed and constructed by American engineers. Presented with it to the Board for consideration, was United States House Bill 2744, introduced by Representative O'Connell, also designs, drawings, construction data, computations, engineering reports, supplementary correspondence, etc.

After examination of this matter and considerable discussion as to the merits of the different types, forms, and sizes of Airships and Airship constructions, it was voted that the matter be referred to the Legislative Committee for further study and consideration with discretionary power to take such action as they judged proper. *The motion carried a recommendation that the Legislative Committee give due consideration to the fact that the members of the Board were in complete accord that any Airships of any type, built for American military, naval, or commercial use, should be designed and constructed throughout by American Engineers, who in addition to being the best engineers in every field in the world, have up-to-date knowledge of any foreign developments.*

All correspondence, data, plans, etc. were turned over to Engr. Albert W. Hagan who was appointed as a subcommittee to check over construction, design, details, data, and computations to report at a meeting of the Legislative Committee to be held in the near future.

It was also recommended that Chairman Harris, of the Legislative Committee invite engineering representatives from American Aeronautical Concerns interested in the suspension bridge type construction to meet with the Legislative Committee who will go further into detail in the engineering features before making their report, or taking definite action in regard to Representative O'Connell's request or upon Bill H.R. 2744.

It was felt that this matter was of such magnitude and importance that the Society as a Professional Engineering group should not be committed to any hasty judgment in the question.

The Society has therefore sent invitations to the Aeronautical Engineering Organization to send an engineering representative or representatives to confer with the Legislative Committee on some of the matters needing clarification.

A letter of 4-27-36 from the Honorable William A. Citron, on the subject, of, and requesting comments on Connecticut Valley Flood Authority Bills now before United States Congress, H.R. 4979 and H. J. Res. 377 was read. A tentative number of basic alterations to these Bills submitted by Engr. Harris, of the Flood Control Committee, was also read. Lengthy discussion ensued of the various interlocking elements of the entire situation. It was voted to refer the matter of comments or criticisms, with discretion to act on these bills, to the Legislative Committee for early attention, the feeling being that, while considerable study had been made independently and collectively on the subject by a number of the members, that these bills covered such an extensive area and immense program, that they should have further deliberation and careful attention before placing the Society on record in the matter.

The volume of bibliography, records, references, data, surveys, reports in the preceding matters was so great that the meeting was recessed and continued May 15th before final adjournment.

Other important matters were correspondence from professional engineering societies from all parts of the country on unified engineering action on Flood Control Activities.

It was decided to cooperate with these activities by supporting a proposed National Engineering Water Control and Soil Conservation Committee when appointed. This Committee, under formation by the National Society, would be composed of representatives from all the Professional Engineering Societies and its duties would be to correlate and coordinate the engineering committee work in all sections and drainage areas.

New appointments made were Engr. Elmer H. Beard, Stamford, to Chairmanship of Membership Committee, Engr. Carl Gotthardt, Bridgeport, to State Secretary, Engr. Albert W. Hagan, Bridgeport, to Legislative Committee.

It was voted to hold the Annual Summer Meeting and Outing in July, date and time to be announced later.

SUPPLEMENTARY MINUTES LEGISLATIVE COMMITTEE

May 30, 1936

Connecticut Society of Professional Engineers—Respess Airship

At a joint meeting last night of the Executive Board of the CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS with the Legislative Committee of the Society, a detailed report was received from the Sub-committee that was appointed at the last meeting of the Board of Directors to study the relative values of the American designed Suspension bridge frame airship and the conventional type airship designs. At the committee's request, designs, data, computations and structural details, with a report from Robinson and Steinman, bridge engineers, on the Respess Airship was submitted to it. After two weeks of independent study, the Committee members joined unanimously in their report which was substantially as follows:

The Respess Airship design of suspension bridge type has structural merit over the conventional type of airship because of these evident advantages:

1. Inherently greater strength with less material.
2. Lower cost of building per cubic foot.
3. Greater factor of safety in storms, at anchor and in maneuvering.
4. Greater pay load.
5. Bow and stern of great strength.

The Committee feels that the proposal is thoroughly worthy of government sponsorship and that the investment of at least $200,000 under the terms of amendment to Bill H. R. 12624 for the further development of the Respess designs are fully warranted. After close questioning of members of the Committee and discussion by the Board, the motion was made and unanimously carried that the president of the Society telegraph to Senator Royal S. Copeland, who is requested to introduce the amendment, and to Senator Augustine Lonergan and Francis T. Maloney of Connecticut to give their support to the amendment.

The telegram was accordingly sent immediately to all three and read as follows:

"The CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS in convention assembled directed me to urge you to support the Amendment to H. R. 1264 appropriating $200,000 to be lent to Respess Aeronautical Engineering Corporation for development of Suspension bridge type American designs for 250 ton airships. After careful study in Committee they find this type inherently stronger with less material weight and cost, greater factor of safety in storms, anchorage and maneuvering. Find proposal thoroughly worthy of Government Sponsorship."

HARRY E. HARRIS, *President*
Conn. Soc. of Prof. Engrs., Inc.

This was followed by a supplementary telegram to Senators Maloney and Lonergan reading:

"Senator Copeland has been asked to introduce Respess Airship Amendment please get in touch with him."

HARRY E. HARRIS, *President*
Conn. Soc. of Prof. Engrs., Inc.

Members of the Legislative Committee were Engineers, Harry E. Harris, Chairman; Herbert C. Elton, Vice-Chairman; John W. Shallenberger, John L. Harkness, William P. Little, Albert W. Hagan, and Charles J. McClinch. Engr. Hagan, headed the Sub-committee on Airship report.

Members of the Board not already named above are Engineers, Z. F. Cappabianca, Chester S. Wendell, Elmer H. Beard, E. Borggrafe, Leon E. Tuttle of Stamford, Claude T. Wilson, Waterbury; B. L. Bilderbeck, New London; Joseph W. Cone, Greenwich; Joseph O. Kelly, Oxford; and Carl Gotthardt, J. Gerald Phelan of Bridgeport. Representatives from practically all branches of professional engineering; Aeronautical, Diesel, structural, electric, mechanical, power plant, civil, metallurgical, were involved in the study, report and recommendations.

PUBLICITY WORTHWHILE

Engineers Hear Aircraft Report

Professional Group Here Urges Passage of Respess Airship Amendment

American designed aircraft of suspension bridge frame is superior to the conventional type aircraft design, according to a report heard last night by members of the Executive board, and Legislative committee of the Connecticut Society of Professional Engineers at a meeting held at the home of Harry E. Harris, 222 Thorme Street, president of the organization.

"The 'Respess,' or American type aircraft is stronger with less weight and cost than the conventional type," the report said. "It also has a greater factor of safety in storms, at anchorage, and while maneuvering, has a bow and stern of greater strength, and is able to carry a larger pay load."

A telegram was sent to Senator Royal S. Copeland of New York, asking him to introduce the Respess Airship Amendment to Bill H. R. 12624, before the Senate, providing for the appropriation of $200,000 for the further development of the Respess designs.

Senator Augustine Lonergan and Francis T. Maloney, of Connecticut, were also notified by wire regarding the report, and asked to urge passage of the bill.

Members of the Legislative committee were Mr. Harris, chairman, Herber C. Elton vice-chairman, John W. Shellenberger, John L. Harkness, William P. Little, Albert W. Hagan, and Charles J. McClinch. Engineer Hagan heads the sub-committee on Airship report.

Other members of the board are engineers, Z. F. Cappabianca, Chester S. Wendell, Elmer H. Beard, E. Borggrafe, Leon E. Tuttle of Stamford, Claude T. Wilson, Waterbury; B. L. Bilderbeck, New London, Joseph W. Cone, Greenwich, Joseph O. Kelly, Oxford and Carl Gotthardt, J. Gerald Phelan of Bridgeport. Representatives from practically all branches of professional engineering; aeronautical, Diesel, structural, electric, mechanical, power plant, civil and metallurgical, were involved in the study, report and recommendations.

ENGINEER AND ENGINEMAN

(*Continued from page* 15)

pronounce and the middle syllable adds nothing to the rest. "Airmen" is much better and will prevail over its pretentious rival.

But this country does need a substitute for "engineer," meaning the man who operates an engine. Heaven only knows we do not want any such word as engineeraftsman, but we might borrow "engine driver" from the British. The point is that "engineer" as used in this country has two wholly different meanings. One meaning applies to the man who operates the throttle of a locomotive, or of a marine or stationary engine. The other meaning applies to a technical specialist, practicing a profession.

The National Society of Professional Engineers at Washington, D. C., is spon-

soring a campaign to clarify the word by confining it to qualified, professional engineers. In thirty-five States the use of the title is restricted to those who have qualified by technical training and been accepted by State examining boards. The society suggests "engineman" rather than "engineer" for the operator of an engine.

The right of priority is advanced to support the claim of the technical men. They point out that "engineer" had a restricted application to the designers, planners or constructors of military, civil or mechanical works, for four centuries before the steam engine was invented. The word engineer as applied to the operator (rather than the designer) of a steam locomotive has a standing of about one century. But it is pretty well established in practice and will be hard to shake. The Brotherhood of Railway Engineers will not give up their time-honored title without a fight. Perhaps the electrical, mechanical, and civil engineers may be forced to take a leaf from the book of the real estate men and coin a word of their own, as "realtor" was coined.

From the pen of National President D. B. Steinman:

Mr. M. W. Clement, President
The Pennsylvania Railroad Co.,
Broad Street Station,
Philadelphia, Pa.
Dear Mr. Clement:

Congratulations and thanks.

I have before me two interesting display advertisements that appeared in the Washington Star (and presumably in other newspapers) on May 26th and June 1st respectively. The first is an advertisement of the Eastern Railroads and contains the catch-line: "Let the engineer do your driving". The second is an advertisement of the Pennsylvania Railroad and features the same catch-line in larger letters, but modified to read: *"Let the Pennsylvania Railroad Engineman Do the Driving!"*

We are pleased to note this evidence of the cooperation of the Pennsylvania Railroad with the campaign of the engineering profession to maintain the correct distinctive application of our professional designation. We are sincerely grateful to you for helping us to maintain this desired clarifying distinction between Engineers and Enginemen.

We hope that you can pass this communication along to the executives of your Passenger and Advertising Departments who may be interested. If you can use your influence in passing this suggestion along to the executives of other railroads, it will be sincerely appreciated.

The engineering profession welcomes such cooperation and is glad to reciprocate whenever there is an opportunity.

The Pennsylvania Railroad Cooperates

Engr. Willard S. Conlon, Executive Secretary of the National Society of Professional Engineers, submits for comparison two interesting display advertisements on behalf of railroad passenger travel. The first, appearing in the Washington Star (and other newspapers) on May 26, is an advertisement of the "Eastern Railroads" and contains the catch-line: "Let the *engineer* do your driving." The second, appearing in the same newspapers on June 1, is an advertisement of the Pennsylvania Railroad and features the same catch-line in larger letters, but modified to read: *"Let the Pennsylvania Railroad Engineman Do the Driving!"*

The Pennsylvania Railroad is cooperating with the campaign of the engineering profession to maintain the correct distinctive application of the professional designation. Engineers have occupied the highest executive positions on this railroad, and they understand and appreciate the propriety of distinguishing between Engineers and Enginemen.

From President H. E. Harris of the Connecticut Society:

Mr. George C. Waldo, Editor
The Bridgeport Post
Post Publishing Company
404 State Street,
Bridgeport, Connecticut

Dear Editor Waldo:

On page 2, at the top of the last column in the Post of May 20th, your paper and the Associated Press referred to the engine operators of the four New England Railroads, under their correct designation of "Enginemen" both in the headlines and in the item itself.

That the term "Engineer" was not misapplied in this case is very gratifying to the 3,000 or 4,000 Engineers in the State and is fully in accord with the discussions upon the subject by professional engineers at the Connecticut State Meeting of the AMERICAN SOCIETY OF MECHANICAL ENGINEERS at the Farmington Country Club on the same date. If the Press uses the term "Engineer" correctly, the misuse of the word will soon cease.

In order to prevent misunderstanding and confusion, the term "Engineer" should never be applied except, to quote from the law, to the "person who, by reason of his knowledge of mathematics, the physical sciences, and the principles of engineering, acquired by professional education and practical experience, is qualified to engage in engineering practice".

The highly skilled driver, or maintenance man, charged with the daily operation and control of the power plants, engines, equipment, and accessories designed and built by engineer, should be always called by a term descriptive of their honorable and highly responsible calling, such as enginemen, enginists, enginicians but should never be confused with the professional, technical individual to whom the designation has belonged for centuries.

The Post of Bridgeport, Connecticut, supplies the following:

New Haven Enginemen in Favor of Walkout

BOSTON, May 20—(A.P.)—Samuel A. Boone, vice-president of the Brotherhood of Firemen and Enginemen, announced today 92 per cent of the employes of four New England railroads had "expressed a desire to leave the service" unless the railroads made a satisfactory adjustment of differences with the union.

Boone said the union employes of the Boston and Maine, the Maine Central and Portland Terminal Company, and the New York, New Haven and Hartford railroads objected to the operation of Diesel-powered engines with but a single man in the cab. They claimed such operation created a hazard to employes and the public.

The chairman of the local unions, however, would have to be polled, Boone added, before the date for a strike call could be issued.

Two Men in Locomotives

Although the railroad brotherhoods have authorized a strike on New England railroads to enforce their demand that there shall be two men in the cabs of Diesel-electric streamlined engines, the newest development in railroading, we do not believe there will be any strike but that the railroads will yield the point.

It is true that no fireman is required on the electric locomotives but the second man in the cab of ordinary steam locomotives has a great deal more to do than shovel coal. (Many of the modern engines have automatic stokers.) The fireman shares with the *engineman* the duty of watching the safety signals, and his presence is a safeguard if anything happens to his chief.

On Diesel-electric engines traveling at extremely high speeds on main lines, two men in the cab should be required. In some states the law requires two men in the cab of a highway truck, for safety's sake. One Maine railroad has already acceded to its demand, its management explaining that it would rather yield than to raise any doubts in the minds of the public about the safety of its crack trains. That is good judgment.

THE PROFESSIONAL DESIGNATION

(*Continued from page* 12)

had been successfully waging a campaign against the indiscriminate use of the appellation "Engineer." Through diplomatic but forceful communications addressed to individuals and corporations, citing the law and explaining the attitude of the profession, hundreds of abuses and misappropriations of the term "Engineer" were successfully corrected without recourse to the courts.

In one season alone, in 1933, 105 unlawful listings as "Engineers" were eliminated from the New York Telephone Directory, through the effort of the State Society with the approval of the State Education Department and the cooperation of the Telephone Company. This made "news"; it even achieved cabled space in newspapers in London and Paris.

At the request of the State Society, leading newspapers throughout the state published editorials against the misuse of the term "Engineer."

The campaign has now been taken up by other State Societies and by the National Society of Professional Engineers.

Last year we secured the active cooperation of the Associated Press, the United Press, and individual newspapers in our campaign to restrict the designation "Engineer" to members of our profession and to substitute the designation "engineman" for those who operate locomotives or engines. We also secured the agreement of the U. S. Department of Labor to cooperate in this campaign and to designate engine-operators as "enginemen" in future Governmental statistical classifications and public reports.

Our professional designation can and should be protected. In answer to the

question of how this can be accomplished, we may set down the four essential parts of a complete program:

1. *Legislation*—Securing the enactment of such further amendments as may prove necessary in our registration laws.

2. *Publicity*—Creating the desired psychological background through a campaign of educational publicity in the newspapers and magazines.

3. *Check-Up*—Direct checking of apparent violations by local units of our professional organization.

4. *Enforcement*—Enlisting the cooperation of state authorities in investigating and prosecuting violators of the law.

This program is not only worthwhile, it is necessary. Other professions have done it. Engineers can do it. *It must be done if engineering is to take its place as a recognizable, defined and integrated profession.*

Engineers must be recognizable, before they can expect recognition. The confusing fringe of mechanics, impostors and pseudo-engineers must be eliminated from the picture.

Only a professional organization can and does accomplish these things. That is why we have the National Society of Professional Engineers and its State Societies and local Chapters.

APPRECIATION OF THE ENGINEER

(*Continued from page* 10)

The numerous divisions, separated by vague lines of demarcation, into which the profession has allowed itself to be divided must be effaced. There can be specialization within this profession as conveniently as in any other. The great diversity of engineering occupation does not necessarily imply lack of professional solidarity.

Engineers in the past as a group have been slow in the development of social graces. They have been too prone to let the other fellow make the contacts with the public. With a few exceptions they have been notably deficient in the art of writing, and are usually stumped when called on to deliver an address, or respond to a toast.

If the engineer is to take his place in society as a leader he must evidence a greater interest in public affairs, develop a deeper cultural background and come to the realization that a good command of English and an understanding of economics and finance are just as important to his success as his knowledge of mathematics and science.

Probably no group of engineers is closer to the public and consequently situated to do work of inestimable value for the uplift of the profession than the members of this Association. Our hands are on the public pulse at all times. We are in close touch with the newspapers and can easily obtain favorable publicity. Why not use this position to our advantage, not selfishly, but honestly? A campaign of publicity carried on in a dignified manner would certainly tend to improve the standing of our calling in our respective communities. Why not acquaint the public with the facts concerning the education that has to be acquired and the effort necessary to be expended so that when the faucet is opened water will flow; or that the sewer will operate efficiently, or the electric lights will glow, or the gas will heat efficiently.

Only by proper education of the public can we hope to advance. It is in our own hands just how great this advance will be.

UNITED ENGINEERING INFLUENCE

(*Continued from page* 13)

that since the founding of our country, as an agricultural nation, we have, decade after decade, through the constructive efforts of engineers, scientists, and other technical groups, employed a greater portion of our people in the industries. Instead of causing unemployment, our technical developments have created new industries and provided employment. Instead of bringing on the depression it was thus delayed. A great many people are employed by the manufacturing, sales and service activities of just two modern industries, the automotive and the radio industries.

For every case of automatic machinery replacing employees in some specific line of work, there have been other new industrial developments which have absorbed a greater number. That this is true is demonstrated by the employment in this country, decade after decade, of a greater portion of the people in the industries. We quickly became the greatest industrial nation in the world because of the efforts of our engineers and scientists. But the masses, deluded by the propaganda put out by other groups, are slow to perceive and accept even such simple facts as those above alluded to, unless clearly presented through the convenient agencies of publicity.

Have we in the National Society For Professional Engineers and its official organ "The American Engineer", such a unifying organization for representing the interests of and for controlling publicity for the professional engineering groups of the various states? We have, if the engineers will exert themselves individually to support the organization and to promote the favorable publicity their cause deserves.

Engineers: now is the time when our country requires engineering administration as never before. Also the public now seems ready to perceive and understand the advantages of giving over to engineers the control and supervision of matters pertaining to industrial development, public works, and the utilization of our natural forces and resources. Now is the time to see it through.

AN ENGINEERING TREND

(*Continued from page* 3)

fined" with an undeveloped judgment and lack of experience, prone to settle into a mere calculating machine, averse to serving a proper and necessary apprenticeship to obtain experience.

In one institution, well known to all of us, a very fortunate combination exists. One branch is composed of men of high technical and mathematical attainments where theory and precedent are the revered Lares et Penates. The other branch is composed of older and more widely experienced men of sound judgment who have the initial design in hand and exercise the final approval. Each is at least tolerant of the other and the result is good.

Except in large operations or organizations this dual check control is impossible. It is well to recognize the dangers mentioned and to counteract this tendency to supertechnical practice by requiring at least ten years of field experience as an apprentice before permitting the young engineer to design or supervise engineering works.

An experienced and practical engineer said that after twenty years of engineering practice he was forced to study the higher mathematics as developed since his graduation. He said, "The engineer has come face to face with a remarkable change in the approach to the mathematical solution of his problems. The method in favor in our universities before the great war was to use the calculus in its simplest and most direct form. Since then the chairs of Theoretical Applied Mechanics have been filled in large part by professors from abroad, with the result that the mathematical treatment of engineering problems is written in a species of shorthand, namely, the partial differentials of the calculus, which, while brilliant in presentation, is seldom as effective as the methods of our native professors."

The great engineers of America present and past, men who have written their names large in engineering advancement and accomplishments, would have been impossible of development under the current trend. I recall the names of a few: Alfred Noble, Frederick P. Stearns, and Robert Ridgeway, self-made men of rare judgment and initiative. If American engineers follow current trends they will become merely mechanical instrumentalities, imitators, and the slaves of precedent and formula and will have lost their greatest and most characteristic assets—initiative and personal judgment.

That the new trend and the contributions of the European engineer both here and abroad have added a great deal to our efficiency is true and it is not intended to deny or belittle these valuable contributions, but to point out the danger of eccentric development and the desirability of a well balanced knowledge and the perpetuation of our initiative and judgment.

FLOOD PROBLEMS

(*Continued from page* 9)

off can be reduced from 15" to 5". If after an extensive survey by competent engineers, scientists and experts such reports, based on actual proof, are made, why should not some credence and consideration be given to them and some attempt made to reach a balanced program that will provide for soil conservation and water control in the higher levels, thus reducing run off, checking erosion, saving topsoil upon which our very lives subsist, as well as improving navigation, building huge storage and power reservoirs and concrete levees in the lower levels.

Roughly, perhaps all appropriations should be divided equally between channels, dikes and dams, and the upper level water control and soil conservation.

For every dollar apportioned to lower level flood protection and water confinement, at least a dollar should be apportioned to holding the moisture where it gives life to the land instead of expediting it on its way to sea. The Upland dollar will not only accomplish a much

greater return but it will do more good in work giving and work spreading throughout the country than work on localized dams, dikes, etc.

House Bill 8455, "An Act Authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes," and the Tentative Senate Report upon it of April 7, 1936, is rather appalling to the average professional engineer who is required to submit estimates, details, reasons and particulars for any modest appropriation asked for. In these documents the terms are most general and the amounts asked for huge and yet it is apparently proposed to appropriate this $400,000,000 without any clear conception in the minds of most of the law makers as to how the money is to be used or even that it should be expended in the way proposed.

To quote an example from Bill and Report:

"Bennington, Vt., on Hoosic River: Channel, clearing; House Document No. 684, Seventy-first Congress, third session; estimated cost, $216,000.

The project for the protection of Bennington provides for the diversion of the floodwaters of Wallomsac Brook around north of the city. The volume of water thus to be diverted is largely responsible for floods in this city.

Estimated construction cost, $216,000.

Estimated cost of lands and damages, small.

Economically justified."

It would seem that the engineering reports upon which the various items, as above, of the bill are based, should be carefully studied by independent and skilled engineers and scientists and that funds should be only appropriated after comprehensive projects had been intelligently coordinated.

The Bureau of Agricultural Engineering, United States Department of Agriculture seems to be in perfect accord with the professional engineering societies in feeling that a balanced plan is necessary and that the banking against flood water is not the whole problem.

Chief Engineer, S. M. McCrory of the Bureau says, "with reference to flood control, it seems very important to us that, in planning a long-time development of the resources of this country, the idea of making provision for all possible uses of water in developing a plan which takes into account all of the varied interests involved is very necessary."

That flood control bills are inaccurately arrived at may be shown by the fact that H. R. 8455 originally had for the "Connecticut River Basin:—Flood control and protection on the Connecticut River by means of bank protection works, channel enlargement, flood walls, and dikes; survey and data in the office of the Chief of Engineers; cost $1,000,000," —in spite of all our previous floods in the Connecticut Valley.

After the floods of 1936 in this area on April 7, 1936 the report proposes to add:

"Reservoir system for the control of floods in the Connecticut River Valley: Construction of 10 reservoirs in Vermont and New Hampshire on tributaries of the Connecticut River; plans in House Document No. 412, Seventy-fourth Congress, second session; estimated cost, $10,028,900.

The reservoir system proposed for the control of floods in the Connecticut River Basin includes three reservoirs on the Passumpsic River, three on the White River, one reservoir on the Ottauquechee, and one on the Ompompanoosuc River, tributaries of the Connecticut in Vermont; and two reservoirs on the Ammonoosuc River, a tributary in New Hampshire. The combined storage of the 10 reservoirs as planned is 352,500 acre-feet. Flood crests are caused particularly by the discharge from the tributaries for which reservoirs are planned and the provision of this headwater control would afford a high degree of protection to the valleys of the tributaries and to the main Connecticut River Valley. In addition, the reservoir system would be of considerable value in providing additional storage to existing power plants downstream; would improve sanitary conditions along the lower river; and would reduce expenditures now necessary for bank protection and dikes.

The Connecticut River and many of its tributaries are subject to frequent floods, some of which cause severe damage. In the 1927 flood a total of 21 lives were lost and damages were caused which have been estimated at $15,526,000. A large part of this damage was to railways, highways, and to industry in general, causing widespread distress and dislocation of the economic life of this important region.

Estimated construction cost, $10,028,900.

Estimated cost of lands and damages, $3,344,100.

Fully warranted for the prevention of disaster to population of basin and of economic disorder."

And over 13 times the original appropriation asked for.

This would seem to prove the contention that great carelessness and inaccuracies affecting millions of the taxpayers' money exists somewhere and that efforts toward flood control are more or less spasmodic and disconnected.

Secretary Ickes, Secretary of the Interior, and Chairman of the National Resources Committee asked on April 20th for cooperation of local authorities in preparing a report on flood prevention measures in the nation's 15 major drainage basins. If he would call upon all professional engineering societies and organizations for help in the engineering program as well, he might well expect valuable assistance as engineers could be assigned to assist him from all parts of the country.

As Congress would authorize the spending of about $775,000,000 on flood control projects, it would be well for all of Washington from the President down to call for assistance from professional engineering societies and their members in coordinating the many disjointed and unbalanced activities and laying down more definite plans and divisions of expenditures than the present loosely estimated reports and costs.

Out of the mass of confusing technical matter, political propaganda, reports, etc., only the trained minds of the engineers can evolve order, bring conciseness, and eliminate the chaff and the dross.

That the several state governments and the Federal Government must combine to set up a unified engineering control for each drainage area, each reporting to a central coordinating engineering authority that shall be non-partisan and free from political preferment, in order to conserve our country for posterity, protect our own lives and welfare, and assure the taxpayer of full value for his dollar, is known to all engineers and most citizens and no attempt has been made to refute it.

It remains for every professional engineer and every professional engineering society to be heard in Washington while pork barrel politicians are planning to profit by the nation's dire necessity and present confusion.

The need for action by the professional engineers is indicated clearly by Congressman William M. Citron, (Connecticut) in his letter to the committee dated April 27th, in which he says: "Any comments you may have to make by resolutions or otherwise on my bills will be most helpful in furthering a comprehensive plan for flood control in New England. At the hearings on H. J. Res. 377, representatives of all the New England governors endorsed the bill but there is still much opposition to any steps being taken toward flood control even through interstate compacts. It is essential to have all those interested in the matter bring the importance of this work to the attention of the public."

Are the engineers to take their place in the matter or not? It is up to them, it belongs on their doorstep.

Kindly note change of business address of the American Engineer

Please remit dues to your Chapter in order that the same may be transmitted to State and National Societies.

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... Civil Engineer ...

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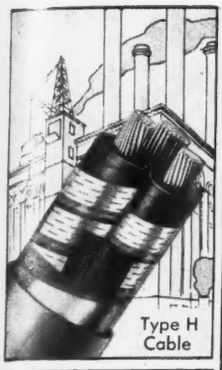
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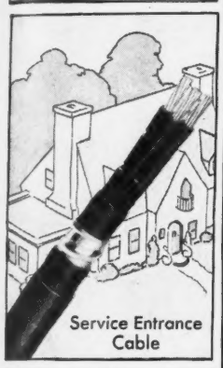
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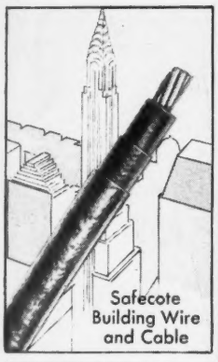
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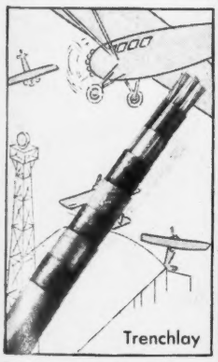
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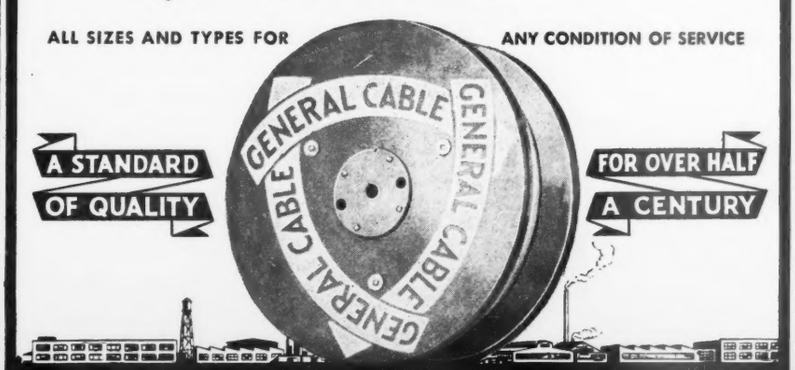

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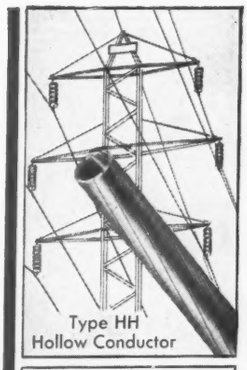
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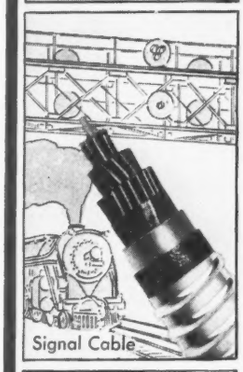
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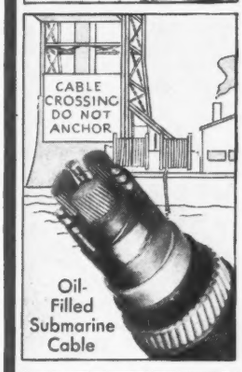

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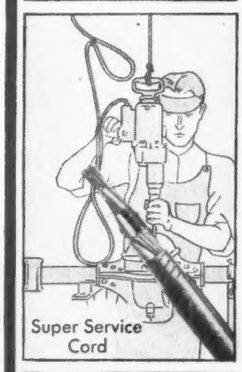
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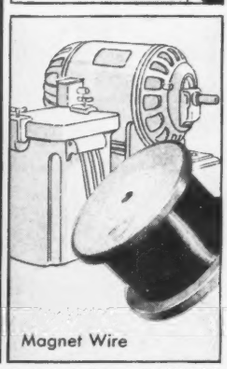
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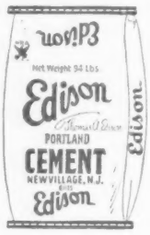

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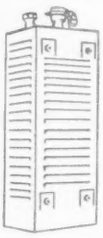

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